THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER 1852.

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TO READERS AND CORRESPONDENTS.

Several communications are on hand, which shall receive early attention.

The following works have been received:—

General Board of Health. Second Report on Quarantine. Yellow Fever. Presented to both Houses of Parliament by command of Her Majesty. London, 1852. (From J. O. McWilliam, M. D.)

Further Observations on that portion of the Second Report on Quarantine by the General Board of Health which relates to the Yellow Fever Epidemy on board H. M. S. Eclair, and at Boa Vista in the Cape de Verde Islands. By J. O. McWilliam, M. D., F. R. S., R. N., &c. London, 1852. (From the Author.)

On the Treatment of Wounds of the Palmar Arch, and of the Arteries in the Vicinity of the Wrist-Joint. By Richard G. H. Butcher, Surgeon to Mercers' Hospital, &c. &c. Dublin, 1852.

The Principles and Practice of Surgery. Illustrated by 316 engravings on wood. By Wm. Pirrie, F. R. S. E., Regius Professor of Surgery in the Mareschal College and University of Aberdeen. Edited, with additions, by John Neill, M. D., Demonstrator of Anatomy in University of Pennsylvania. Philadelphia: Blanchard & Lea, 1852. (From the Publishers.)

A Practical Treatise on the Diseases of the Skin. By J. Moore Neligan, M. D., M. R. I. A., &c. Philadelphia: Blanchard & Lea, 1852. (From the Publishers.)

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia, from May 11 to July 6 inclusive, 1852.

Transactions of the Twenty-ninth Annual Meeting of the Medical Society of Virginia, together with the President's Address, and the Constitution of the Society. Richmond, 1852.

Transactions of the Medical Association of the State of Missouri at its Second Annual Meeting, St. Louis, April 19, 20, and 21, 1852. Vol. II. St. Louis, 1852.

Proceedings of the Medical Association of the State of Alabama at its Fifth Annual Meeting, begun and held in the City of Montgomery, December, 8—11, 1852: with an Appendix and List of Members. Mobile, 1852.

Transactions of the Medical Society of the State of Pennsylvania at its Annual Session, held in the City of Philadelphia, May, 1852. Vol. II. Published by the Society. Philadelphia, 1852.

Transactions of the Medical Association of South-Central New York, at the Annual Meeting held at Owego, June, 1852. Auburn, 1852.

Transactions of the Third Annual Meeting of the Medical Society of the State of Georgia, held in the City of Augusta, April, 1852. Penfield, 1852.

Transactions of the Illinois State Medical Society for the year 1852. Peoria, 1852.

Clinical Reports on Continued Fever, based on Analyses of one hundred and sixty-four Cases; with Remarks on the Management of Continued Fever; the Identity of Typhus and Typhoid Fever; Relapsing Fever; Diagnosis, etc. To which is added a Memoir on the Transportation and Diffusion, by Contagion, of Typhoid Fever, as exemplified in the occurrence of the Disease at North Boston, Erie County, N. Y. By Austin Flint, M. D., Professor of the Principles and Practice of Medicine, and of Clinical Medicine, in the University of Buffalo, &c. Buffalo: Geo. H. Derby & Co., 1852. (From the Publishers.)

Operative Surgery Illustrated: containing more than nineteen hundred engravings, including two hundred original and fifty coloured drawings: with explanatory text. By R. U. Piper, M. D. Also, a Chapter upon the Use of

Ether in Surgery, from the Trans. Am. Med. Assoc. By H. J. Bigelow. Boston: Ticknor, Reed, & Fields, 1852.

On the Surgical Treatment of Polypi of the Larynx and Œdema of the Glottis. By Horace Green, A. M., M. D., &c. New York: G. P. Putnam, 1852. (From the Author.)

Records of Maculated Typhus, or Ship Fever, with Suggestions of Treatment. Being the Result of a Series of Observations made during the Prevalence of the Disease at South Boston and Deer Island Hospitals in 1847–48. With Plates. By J. B. Upham, M. D. New York, 1852. (From the Author.)

Report of the Committee appointed by the City Council; and, also, a Comparative View of the Population of Boston in 1850, with the Births, Marriages, and Deaths in 1849 and 1850. By Jesse Chickering, M. D. (From Dr. E. Jarvis.)

Report of the Board of Visitors of the Boston Lunatic Hospital; containing a Statement of the Condition of that Institution, and transmitting the Annual Report of the Superintendent for 1851. (From Dr. E. Jarvis.)

On the Supposed Increase of Insanity. By Edward Jarvis, M. D. Dorchester, Mass. (From the Author.)

Twenty-second Report of the Belfast District Asylum for the Insane, for the year ending March 31, 1852. Drawn up by the Resident Physician. Belfast, 1852. (From Robert Stewart, Resident Physician.)

An Address read before the Tennessee Medical Society at its Twenty-third Session. By John M. Watson, M. D., Professor of Midwifery in University of Nashville. Nashville, 1852.

An Address delivered before the Medical Society of Virginia at its Twenty ninth Annual Meeting, held in Richmond April, 1852. By Beverly R. Welford, M. D., &c., President of the Society. Published by order of the Society. Richmond, 1852.

Address to the Chester County Medical Society. By William Darlington, M. D., President of the Society. West-Chester, Penn., 1852.

The Difficulties and Privileges of the Medical Profession. An Address delivered before the Medical Society of the State of Georgia at their Third Annual Meeting, held at Augusta, April, 1852. By Henry F. Campbell, M. D., First Vice-President of the Med. Soc. of the State of Georgia, Demonstrator of Anat. in the Med. College of Georgia, &c. Augusta, 1852.

Report of the Medical Department of the University of Pennsylvania for the Session of 1851–52. To the Alumni of the School. Philadelphia, 1852.

Annual Catalogue and Announcement of the Medical Department of the St. Louis University. Session 1852–53.

Annual Circular of the Medical Institution of Yale College for the Lecture Term of 1852–53. New Haven, 1852.

Annual Announcement of Rush Medical College of Chicago, Illinois. Session of 1852–53. Chicago, 1852.

Annual Circular of the National Medical College, Washington, D. C. Washington, 1852.

The following Journals have been received in exchange:—

Annales Médico-Psychologiques. Par Baillarger, Brierre de Boismont, et Cerise. April and July, 1852.

Vierteljahrschrift für die praktische Heilkunde. Red: a. o. Prof. Dr. J. Halla and Dr. J. V. Hasner. Bd. xxxiv and xxxv. 1852.

Medical Times and Gazette. June, July, and August, 1852.

Dublin Medical Press. June, July, and August, 1852.

Dublin Quarterly Journal of Medical Science. August, 1852.

Provincial Medical and Surgical Journal. Joint-Editors, W. H. Ranking, M. D., Norwich, and J. H. Walsh, Esq., Worcester. June, July, and August, 1852.

The British and Foreign Medico-Chirurgical Review. July, 1852.

The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. July, 1852.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M. D., Cantab. Jan.—June, 1852.

Monthly Journal of Medical Science. Edited by Professors Christison, Syme, Simpson, and Bennett, and Drs. Maclagan and Robertson. July, August, 1852.

London Journal of Medicine. July, August, September, 1852.

The Upper Canada Journal of Medical, Surgical, and Physical Science. April, 1852.

[This is the only No. of this Journal which we have received.]

Canada Medical Journal. Edited by R. L. Macdonnell, M. D., and A. H. David, M. D. July, August, September, 1852.

The American Journal of Pharmacy. Published by authority of the Philadelphia College of Pharmacy. Edited by Wm. Procter, Jr., Professor of Pharmacy in Philad. Coll. of Pharm., &c. July, 1852.

The New Jersey Medical Reporter, and Transactions of the New Jersey Medical Society. Edited by Joseph Parrish, M. D. July, August, September, 1852.

The North-Western Medical and Surgical Journal. Edited by W. B. Herrick, M. D., and H. A. Johnson, M. D. June, July, August, 1852.

L'Union Médicale de la Louisiane. Editeurs-Redacteurs, Charles Delery, D. M. P., et Edward Martin, D. M. P. Nos. 6 and 8.

The New Hampshire Journal of Medicine and Surgery. Edited by Edward H. Parker, M. D. July, August, 1852.

The New Orleans Medical and Surgical Journal. A. Hester, M. D., Editor. July, September, 1852.

The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica. July, 1852.

Buffalo Medical Journal. Edited by Austin Flint, M. D. July, August, September, 1852.

The Ohio Medical and Surgical Journal. Edited by Richard L. Howard, M. D. July, September, 1852.

The American Journal of Science and the Arts. Conducted by Professors B. Silliman, B. Silliman, Jr., and James D. Dana; and, in the Departments of Chemistry and Physics, by Dr. Wolcott Gibbs. July, September, 1852.

Boston Medical and Surgical Journal. Edited by J. V. C. Smith, M. D. July, August, September, 1852.

New York Medical Times. J. G. Adams, Editor and Proprietor. July, August, September, 1852.

The Transylvania Medical Journal. Edited by E. L. Dudley, M. D. July, 1852.

The New Orleans Monthly Medical Register. Edited by A. F. Axson, M. D. July, August, September, 1852.

The Western Medico-Chirurgical Journal. Edited by J. F. Sanford, M. D. July, August, September, 1852.

The Charleston Medical Journal and Review. Edited and Published by D. J. Cain, M. D., and F. Peyre Porcher, M. D. July, September, 1852.

Nashville Journal of Medicine and Surgery. Edited by W. K. Bowling, M. D., and P. F. Eve, M. D. July, August, September, 1852.

The Western Lancet. Edited by L. M. Lawson, M. D., and Geo. Mendenhall, M. D. July, August, September, 1852.

Western Journal of Medicine and Surgery. Edited by L. P. Yandell, M. D., and T. S. Bell, M. D. July, August, September, 1852.

St. Louis Medical and Surgical Journal. Edited by Drs. Linton, Moore, McPheeters, and Johnson. July, September, 1852.

The Stethoscope. Edited by P. C. Gooch, M. D. July, August, September, 1852.

The New York Medical Gazette. Edited by D. M. Reese, M. D. July, August, September, 1852.

The Medical Examiner. Edited by F. G. Smith, M. D., and J. B. Biddle, M. D. July, August, September, 1852.

The New York Journal of Medicine. Edited by S. S. Purple, M. D. July, 1852.

Southern Medical and Surgical Journal. Edited by L. A. Dugas. January, March, April, May, June, July, August, September, 1852.

The American Journal of Dental Science. Edited by Chapin A. Harris, M. D., D. D. S., and Alfred A. Blaney, M. D., D. D. S. July, 1852.

The East Tennessee Record of Medicine and Surgery. Edited by Frank A. Ramsay, A. M., M. D. August, 1852.

The Medical Recorder. Published monthly by the Memphis Medical College. September, 1852.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to Isaac Hays, M. D., Editor of the American Journal of the Medical Sciences, care of Messrs. Blanchard & Lea, Philadelphia. Parcels directed as above, and sent (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London;* or to John Wiley or G. P. Putnam, *New York;* or W. D. Ticknor, *Boston;* or M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris*, will reach us safely and without delay. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Blanchard & Lea.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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XXIX. Transactions of the Medical Society of the State of New York, during its Annual Session, held at Albany, February 3, 1852. Albany, 1852; 8vo. pp. 160. - - - - - - - - 479

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ART. I.—*Statistics of Fractures and Dislocations treated in the Pennsylvania Hospital, during the ten years from* 1840 *to* 1849 *inclusive.* By GEORGE W. NORRIS, M. D., one of the Surgeons to the Institution.

IN the first volume of the New Series of this Journal (April 1841), I published a statistical account of the fractures and dislocations treated in the Pennsylvania Hospital, from 1830 to 1839 inclusive, with the view of showing the relative frequency of, and the results obtained there, in these important classes of injuries, prefacing them with a short account of the plan of treatment generally adopted. The object of the present communication is to continue these statistics, by giving the numbers and results of those treated in the ten years ending in 1849.

In the present, as in the foregoing tables, no separate head is retained for compound fractures* except those of the thigh; the entries having been so made in the books of the hospital, that it was impossible when these tables were begun, in all cases accurately to ascertain whether the patient was admitted for simple or compound fracture; and for the same reason, under the heads of fracture of the arm and fracture of the leg, are included respectively those of the forearm, either of one or both bones, as well as of the humerus, and of one or both bones of the leg. No record of the period required for the union of the different fractures treated, has been kept. In all cases, except a very few where our patients request a discharge, it is the custom of the house to retain them for a considerable time after union—until the stiffness and debility resulting from their injuries and confinement has been so far removed as to enable the patients shortly afterwards to resume their employments.

* The results of treatment in compound fractures of the leg and thigh, from 1839, are given in a separate paper appended to the present.

1840.	No.	Cured.	Relieved or removed by friends.	Died.
Fractured thigh	15	9		6
" leg	27	23		4
" cranium	2	1		1
" ribs	2	1	1	
" clavicle	15	13	2	
" arm	17	16	1	
" fingers	3	3		
" scapula	1	1		
" pelvis	1			1
" spine	2	1		1
Ununited fracture	1		1	
Total	86	68	5	13

1841.				
Fractured thigh	8	7	1	
" leg	28	19	3	6
" patella	2	2		
" cranium	1			1
" ribs	3	2		1
" clavicle	13	11	2	
" arm	18	16	2	
" fingers	2	2		
Fracture	1	1		
Compound fracture of thigh	1			1
Total	77	60	8	9

1842.				
Fractured thigh	9	9		
" leg	24	19		5
" cranium	2	1	1	
" spine	1			1
" ribs	3	3		
" jaw	1		1	
" clavicle	9	9		
" arm	26	25	1	
" hand and fingers	5	4	1	
" foot and toes	2	1	1	
" pelvis	1	1		
" nose	1		1	
Ununited fracture	1		1	
Compound fracture of thigh	1	1		
Total	86	73	7	6

1843.				
Fractured thigh	13	12		1
" leg	16	12		4
" patella	4	4		
" cranium	4		2	2
" spine	2			2
" ribs	6	4	1	1
" jaw	2	2		
" clavicle	9	5	4	
" arm	32	27	4	1
" hand and fingers	2	1	1	
" scapula	1		1	
" foot and toes	2	1	1	
" nose	2	1	1	
Compound fracture of thigh	1			1
Total	96	69	15	12

1844.				
Fractured thigh	18	15	1	2
" leg	32	26	1	5
" patella	2	2		
" cranium	5			5
" spine	3			3
" ribs	4	4		
" jaw	5	3	1	1
" clavicle	6	5	1	
" arm	31	26	3	2
" hand and fingers	9	9		
" toes and foot	6	3	1	2
" scapula	3	3		
" pelvis	1			1
" nose	2	2		
" astragalus	1	1		
Compound fracture of thigh	4	1		3
Total	132	100	8	24

1845.				
Fractured thigh	7	6		1
" leg	31	26	1	4
" patella	3	2	1	
" cranium	6		1	5
" spine	2		2	
" ribs	5	5		
" jaw	4	1	3	
" clavicle	12	12		
" arm	36	31	3	2
" foot and toes	4	2		2
" scapula	1		1	
" nose	1	1		
Compound fracture of knee	1	1		
Total	113	87	12	14

1846.				
Fractured thigh	15	14		1
" leg	41	30	3	8
" patella	3	3		
" cranium	7	2		5
" spine	4			4
" ribs	3	3		
" jaw	4	3	1	
" clavicle	8	6	2	
" arm	31	27	3	1
" hand and fingers	7	5	2	
" foot and toes	4	3	1	
" scapula	2	2		
" nose	3	1	2	
Compound fracture of thigh	3	1		2
Ununited fracture	1		1	
Total	136	100	15	21

1847.				
Fractured thigh	22	21		1
" leg	44	33	4	7
" patella	4	4		
" cranium	4	2		2
" ribs	5	3	1	1
" jaw	4	3		1
" clavicle	8	8		
" arm	32	28	2	2
" fingers and hand	8	8		
" foot and toes	4	2	1	1
" pelvis	2	1		1
" sternum	1		1	
" nose and face	5	3	1	1
" scapula	3	1	2	
Total	146	117	12	17

1848.	No.	Cured.	Relieved or removed by friends.	Died.
Fractured thigh	19	16	2	1
" leg	35	32	1	2
" patella	4	4		
" cranium	9	4	3	2
" spine	1			1
" ribs	4	3	1	
" jaw	6	4	2	
" clavicle	7	5	2	
" arm	42	39	2	1
" hand and fingers	13	12	1	
" foot and toes	12	8	1	3
" scapula	4	4		
" pelvis	2	1		1
" nose and face	3	2	1	
Compound fracture of thigh	1			1
Ununited fracture	2	2		
Total	164	136	16	12

1849.	No.	Cured.	Relieved or removed by friends.	Died.
Fractured thigh	22	16	2	4
" leg	40	29	5	6
" patella	4	3		1
" cranium	24	8	2	14
" spine	2		1	1
" ribs	7	5	2	
" jaw	6	5	1	
" clavicle	17	16		1
" arm	64	55	5	4
" hand and fingers	11	9	1	1
" foot and toes	4	4		
" scapula	3	2		1
" pelvis	1	1		
" nose and face	3	3		
Compound fracture of thigh	4	1		3
" " os calcis	1	1		
Total	213	158	19	36

General Summary of the Fractures treated during ten years.

Years.	Whole number.	Cured.	Relieved or removed by friends.	Died.
1840	86	68	5	13
1841	77	60	8	9
1842	86	73	7	6
1843	96	69	15	12
1844	132	100	8	24
1845	113	87	12	14
1846	136	100	15	21
1847	146	117	12	17
1848	164	136	16	12
1849	213	158	19	36
Total	1249	968	117	164

The Relative Frequency of Fractures will be seen in the following Table:—

	Number.	Cured.	Relieved or removed by friends.	Died.
Fractured thigh	148	125	8	15
" leg	318	249	18	51
" cranium	64	18	9	37
" patella	26	24	1	1
" spine	17	1	3	13
" sternum	1		1	
" clavicle	104	90	13	1
" arm	329	290	26	13
" hand and fingers	60	53	6	1
" feet and toes	38	24	6	8
" scapula	18	13	4	1
" nose and face	20	13	4	3
" jaw	32	21	9	2
" pelvis	8	4		4
" ribs	42	33	6	3
" astragalus	1	1		
" fracture	1	1		
Compound fracture of knee	1	1		
" " thigh	15	4		11
Ununited fracture	5	2	3	
Fracture of os calcis	1	1		
Total	1249	968	117	164

Table of the Dislocations treated during ten years.

1840.	No.	Cured.	Relieved or removed by friends.	Died.
Dislocated shoulder	6	5	1	
" elbow	1	1		
Comp. dislocated finger	1	1		
Total	8	7	1	
1841.				
Dislocated shoulder	2	2		
1842.				
Dislocated shoulder	4	4		
" elbow	1	1		
" thumb	1	1		
" clavicle	1	1		
Incomp. of knee	1	1		
Total	8	8		
1843.				
Dislocated shoulder	3	3		
" hip	1	1		
" elbow	1	1		
Total	5	5		
1844.				
Dislocated shoulder	6	6		
" hip	1	1		
" clavicle	1	1		
" elbow	1	1		
Comp. dislocated astragalus	1			1
Total	10	9		1

1845.	No.	Cured.	Relieved or removed by friends.	Died.
Dislocated shoulder	4	4		
" semilunar cartilage	1	1		
" elbow	1	1		
Total	6	6		
1846.				
Dislocated shoulder	6	6		
" hip	1	1		
" clavicle	1	1		
" elbow	1	1		
" head of radius	1	1		
" astragalus	1	1		
Total	11	11		
1847.				
Dislocated shoulder	6	6		
" elbow	1	1		
" clavicle	2	1	1	
Comp. dislocation of thumb	1	1		
Total	10	9	1	
1848.				
Dislocated shoulder	10	10		
" clavicle	1	1		
" radius	1	1		
Total	12	12		
1849.				
Dislocated shoulder	5	5		
" hip	1	1		
" elbow	2	2		
" clavicle	3	1	2	
Comp. dislocation of thumb	1		1	
Total	12	9	3	

General Summary of the Dislocations treated during ten years.

	Number.	Cured.	Relieved or removed by friends.	Died.
Dislocated shoulder	52	51	1	
" hip	4	4		
" astragalus	2	1		1
" elbow	9	9		
" clavicle	9	6	3	
" radius	2	2		
Compound dislocation of fingers	1	1		
" " thumb	3	2	1	
Incomp. of knee	1	1		
Dislocation of semilunar cartilage	1	1		
Total	84	78	5	1

Of the 52 cases of dislocated shoulders which occurred during the ten years, 51 were cured, and one left the house without benefit. Of the 52

cases, 39 are noted as having been dislocations downwards into the axilla; in 10 the head of the bone was found forwards under the clavicle; and in 3 the direction of the displacement was not noted.

Among these dislocations, was 1 which had been out ten weeks, 1 four weeks and six days, 1 forty-eight days, 1 thirty-one days, 2 twenty-nine days, 1 ten days, and 1 four days. One of the recent dislocations was accompanied by a compound fracture of the elbow of the same side, of so severe a character that amputation in the middle of the arm was performed, the luxation being reduced previous to the operation.

Of the 9 dislocations of the clavicle, 4 were injuries in which the sternal end of that bone was thrown forwards, and in the 5 other cases the acromial end was displaced upwards.

But 4 dislocations of the hip were admitted during the ten years. All of these were brought to the Institution within twenty-four hours after their occurrence; two were into the ischiatic notch, one was into the foramen ovale, and one was a displacement upwards and backwards upon the ilium. They were all reduced.

Appended to the surgical report presented to the American Medical Association at their annual meeting, held in the city of Charleston, and published in the fourth volume of their *Transactions*, is an interesting table of the cases of all the compound fractures of the leg and thigh treated at the New York Hospital, from January 1, 1839, to April 1, 1851. The following table, embracing the same period of time, I have drawn from the records of the Pennsylvania Hospital. Unfortunately, these give no information on many particulars which it would be desirable for statistical purposes to ascertain; yet as far as they go, they are believed to be accurate, and afford sufficient data for comparison with the New York cases, and like them, show strikingly the great mortality attendant upon this class of accidents.

Statistical Table of all the Compound Fractures of the Leg and Thigh treated at the Pennsylvania Hospital, from January 1, 1839, *to April* 1, 1851. By GEORGE W. NORRIS, M. D., Surgeon to the Hospital.

No.	Admission.	Age.	Leg or thigh.	Result.	Date of discharge.
	1839.				1839.
1	January 6	8	Leg	Died	January 6.
2	do. 15	35	do.	Cured	April 30.
3	do. 15	14	do.	do.	March 29.
4	February 2	32	do.	Died	February 3.
5	do. 9	45	Thigh	do.	do. 11.
6	March 2	40	Leg	Cured	June 29.
7	April 7	16	Thigh	Died	April 18.
8	May 6	15	do.	Cured	November 9.
9	do. 20	7	do.	do.	Removed by parents a few days after accident, but did well.
10	June 22	39	Leg	Died	July 12.

No.	Admission.	Age.	Leg or thigh.	Result.	Date of discharge.
11	July 30	40	Leg	Cured	October 5.
12	November 11	12	Thigh	do.	April 29, 1840.
	1840.				1840.
13	March 24	33	Leg	do.	October 10.
14	May 12	24	Legs	Died	May 13.
15	July 4	25	Leg	do.	August 28.
16	August 25	55	do.	do.	September 26.
17	September 20	41	do.	do.	do. 27.
18	November 2	27	do.	Cured	March 14, 1841.
	1841.				1841.
19	January 13	40	Legs	Died	January 13.
20	March 12	48	Leg	Cured	June 26.
21	April 5	29	Legs	Died	April 5.
22	do. 20	48	Leg	Cured	June 30.
23	June 16	38	do.	Died	do. 20.
24	do. 16	5	Thigh	do.	do. 16.
25	do. 28	31	Leg	do.	July 1.
26	July 21	45	do.	do.	August 5.
27	do. 26	40	do.	Cured	October 21.
28	do. 31	32	do.	do.	February 23, 1842.
29	August 3	26	do.	By friends	September 11.
30	September 23	46	Legs	Died	do. 26.
31	November 6	21	Leg	Cured	January 27, 1842.
32	do. 29	28	do.	do	February 28, 1842.
33	December 27	31	do.	do.	January 29, 1842.
34	do. 31	38	Legs	do.	February 25, 1842.
	1842.				1842.
35	March 15	27	Leg	do.	June 30.
36	do. 27	22	do.	do.	October 1.
37	April 14	62	do.	Died	April 19.
38	June 25	24	do.	Cured	October 30.
39	July 1	10	do.	do.	August 10.
40	do. 31	35	do.	do.	November 5.
41	August 10	28	do.	Died	August 14.
42	September 30	47	do.	do.	October 7.
43	October 15	31	do.	Cured	January 18, 1843.
44	do. 29	25	do.	do.	March 18.
45	November 30	31	Legs	Died	December 3.
46	December 10	19	Thigh	Cured	June 17, 1843.
	1843.				1843.
47	May 13	17	Leg	do.	July 12.
48	June 18	8	Thighs	Died	June 20.
49	September 8	32	Leg	do.	September 18.
50	October 3	9	do.	Cured	June 19.
51	do. 26	57	do.	Died	November 11.
52	December 20	33	do.	do.	December 26.
53	do. 24	40	do.	do.	January 2, 1844.
	1844.				1844.
54	February 14	26	do.	Cured	July 29.
55	do. 16	23	do.	do.	August 9.
56	do. 18	25	Legs	Died	February 24.
57	do. 22	7	Leg	Cured	Taken home by parents after amputation, but did well.
58	April 13	50	do.	do.	June 29.
59	do. 24	7	do.	do.	September 28.
60	July 3	41	Thigh	Died	July 3.

No.	Admission.	Age.	Leg or thigh.	Result.	Date of discharge.
61	July 7	19	Thigh	Cured	April 5, 1845.
62	do. 26	19	Leg	Died	August 1.
63	do. 31	23	do.	Cured	November 6.
64	August 10	13	Thigh	Died	August 11.
65	do. 15	25	Legs	do.	do. 15.
66	September 24	53	do.	do.	September 24.
67	do. 25	11	Thighs	do.	do. 25.
68	October 5	22	Leg	Cured	December 24.
69	do. 28	51	do.	do.	February 21.
70	December 5	39	do.	Died	December 6.
	1845.				1845.
71	January 16	9	Knee	Cured	June 29.
72	March 20	10	Leg	Died	March 21.
73	do. 22	38	do.	Cured	June 29.
74	May 22	34	do.	do.	November 11.
75	do. 28	26	do.	do.	July 23.
76	June 17	25	do.	Died	do. 6.
77	do. 17	23	do.	Cured	September 26.
78	do. 18	51	do.	Died	July 6.
79	July 23	23	do.	Cured	October 2.
80	September 7	23	do.	Died	September 17.
81	October 20	39	do.	Cured	February 11, 1846.
82	November 18	30	do.	do.	do. 28, 1846.
	1846.				1846.
83	February 25	31	do.	Died	February 25.
84	April 11	57	do.	do.	April 24.
85	do. 15	53	do.	Cured	August 3.
86	do. 28	11	Thigh	Died	April 29.
87	May 12	7	do.	do.	May 12.
88	June 18	63	Leg	Cured	September 12.
89	do. 19	15	do.	do.	do. 12.
90	July 8	29	do.	do.	do. 5.
91	do. 17	25	do.	do.	December 14.
92	August 28	49	do.	Died	October 4.
93	October 2	30	Legs	do.	do. 15.
94	do. 22	33	Leg	do.	do. 27.
95	November 6	30	Thigh	Cured	January 24, 1847.
96	do. 18	46	Leg	Died	November 22.
97	December 5	34	do.	do.	December 30.
	1847.				1847.
98	February 13	15	do.	do.	April 26.
99	do. 16	37	do.	Cured	do. 14.
100	April 13	23	do.	do.	August 18.
101	May 4	31	do.	do.	July 1.
102	do. 10	48	do.	Died	May 12.
103	June 20	49	do.	Cured	November 10.
104	do. 25	43	do.	do.	September 18.
105	July 2	11	do.	Died	July 2.
106	do. 24	31	do.	Cured	October 26.
107	do. 26	28	do.	Died	July 30.
108	August 15	29	do.	Cured	October 23.
109	September 11	16	do.	do.	November 16.
110	do. 25	25	do.	do.	February 21, 1848.
111	October 12	21	do.	Died	October 20.
112	do. 22	40	do.	do.	November 10.
113	December 6	31	do.	do.	December 28.

No.	Admission.	Age.	Leg or thigh.	Result.	Date of discharge.
	1848.				1848.
114	March 14	11	Thigh	Died	March 15.
115	May 11	17	Leg	Removed	to Smallpox Hospital, and died of the confluent form.
116	July 1	21	do.	Cured	October 28.
117	do. 11	14	do.	Died	July 11.
118	September 22	36	do.	Cured	
119	November 8	21	do.	do.	April 14, 1849.
120	do. 30	10	do.	do.	February 3, 1849.
	1849.				1849.
121	January 10	9	do.	do.	October 15.
122	do. 21	44	do.	do.	November 17.
123	February 3	23	Thigh	do.	October 10.
124	do. 13	29	Leg	do.	September 13.
125	March 31	25	do.	do.	July 6.
126	do. 31	25	Patella	do.	June 9.
127	April 21	33	Leg	By friends	May 26.
128	May 23	21	do.	Cured	August 13.
129	June 3	50	do.	do.	do. 3.
130	do. 12	35	Thigh	Died	June 12.
131	July 3	4	do.	do.	July 4.
132	August 3	37	Leg	do.	August 3.
133	do. 17	23	do.	Cured	
134	do. 22	31	do.	do.	
135	October 10	21	do.	Died	October 24.
136	do. 15	36	do.	Cured	
137	do. 19	31	do.	Died	October 23.
138	November 1	22	do.	Cured	
139	do. 4	35	do.	Died	March 9, 1850.
140	do. 30	18	do.	Cured	do. 11, 1850.
141	December 8	36	Legs	Died	December 11.
142	do. 13	40	Leg	do.	do. 23.
143	do. 13	17	Thigh	do.	do. 19.
	1850.				1850.
144	January 4	8	Leg	Cured	February 14.
145	February 6	10	Legs	do.	July 11.
146	March 20	14	Thigh	Died	March 26.
147	April 25	27	Leg	do.	May 3.
148	do. 30	32	do.	Cured	July 27.
149	May 3	29	do.	do.	do. 5.
150	June 10	19	Thigh	do.	August 1.
151	do. 13	28	Leg	Died	July 11.
152	do. 18	20	Thigh	Cured	August 22.
153	July 9	11	Leg	do.	November 30.
154	do. 9	32	Thigh	Died	July 14.
155	do. 12	36	Leg	Cured	August 31.
156	do. 25	48	do.	do.	September 18.
157	do. 29	40	do.	do.	do. 3.
158	August 14	16	do.	do.	October 28.
159	do. 26	30	do.	do.	November 18.
160	September 13	36	do.	do.	do. 18.
161	do. 16	26	Thigh	Died	September 20.
162	October 9	18	Leg	Cured	November 18.
163	do. 9	32	do.	Died	October 15.
164	November 29	11	do.	Cured	June 5, 1851.
165	December 3	47	do.	Died	December 21.
166	do 30	27	do.	Cured	March 10, 1851.

Summary of the Compound Fractures of the Leg and Thigh treated from January 1, 1839, *to April* 1, 1851.

LEGS.					THIGHS.				
Years.	Whole number.	Cured.	Died.	Number amputated.	Years.	Whole number.	Cured.	Died.	Number amputated.
1839	7	4	3	2 cured	1839	5	3	2	
1840	6	2	4	2 died	1840				
1841	15*	8	6	2 cured 4 died	1841	1		1	
1842	11	7	4	4 cured 2 died	1842	1	1		
1843	6	2	4		1843	1		1	
1844	13	8	5	2 cured 1 died	1844	4	1	3	1 died
1845	11	7	4	1 cured 1 died	1845	1 knee	1		1 cured
1846	12	5	7	1 cured 3 died	1846	3	1	2	
1847	16	9	7	6 cured 3 died	1847				
1848	6†	4	1	2 cured	1848	1		1	
1849	18‡	11	6	1 cured 1 died	1849	5	2	3	
1850	18	14	4	7 cured 2 died	1850	5	2	3	1 cured
	139	81	55	47		27	11	16	3

The above table contains 166 cases of compound fractures of the leg and thigh. Of these, 27 were of the thigh, and 139 were of the leg.

Of the 166 cases, 92 were cured, 71 died, and 3 were removed from the Institution.

Of the whole number of cases of both leg and thigh, amputation was resorted to in 50 instances, of which 30 were cured and 20 died.

Of 116 cases (leg and thigh) treated without amputation, 65 were cured, and 51 died.

Of the 139 fractures of the leg, 81 were cured, 55 died, and 3 removed by friends. Among these cures were 28 after loss of the limb, and among the deaths were 19 after it.

Of the 27 fractures of the thigh, 11 were cured and 16 died. Among these cures were 2 after amputation, and among the deaths 1 after that operation.

The ages of the fractures of the thigh cured without amputation were respectively—fifteen, seven, twelve, two of nineteen, thirty, twenty-three, and twenty.

Of the whole number of cases of both classes, 53 were railroad injuries.

22 of the 71 deaths occurred within twenty-four hours after the admission of the patients, and in many of these there was no reaction from the shock inflicted by the injury.

With us, as in the New York Hospital, and as must prove the case in all

* One was discharged by request forty six-days after admission.

† One removed to Smallpox Hospital, and died of the confluent form of that disease some weeks after his injury.

‡ One discharged by request five weeks after admission.

large institutions, many of the accidents of the class treated of were almost necessarily fatal, being complicated with internal injuries of the most serious kind.

The subjoined summary will exhibit at a glance the results furnished in the hospitals of New York and Pennsylvania.

	Whole number of cases treated from January 1, 1839, to April 1, 1851.	Cured.	Died.	Proportion of cures.
Pennsylvania Hospital	166	95	71	57.23 per cent.
New York Hospital	158	79	79	50 do.
	Compound fractures of the thigh.			
Pennsylvania Hospital	27	11	16	40.74 per cent.
New York Hospital	26	5	21	19.23 do.
	Compound fractures of the leg.			
Pennsylvania Hospital	139	84	55	60.43 per cent.
New York Hospital	132	73	59	55.30 do.
	Amputations done in the above cases.			
Pennsylvania Hospital	50	30	20	60 per cent.
New York Hospital	32	14	18	43.75 do.

ART. II.—*On Hemorrhage from the Umbilicus in New-born Infants, with an Analysis of Forty-six Cases.* By FRANCIS MINOT, M. D.—[Read before the Boston Society for Medical Improvement, April 26, 1852.]

IT is only within a recent period that the attention of medical men has been called to a class of cases, usually considered of rare occurrence, but certainly worthy of more attention than has hitherto been bestowed upon them. The subject of *hemorrhage from the umbilicus in new-born infants* scarcely occupies half a page in any treatise on Children's Diseases with which I am acquainted, and in most of them is wholly unnoticed; yet the numerous instances that have lately been reported in the journals show that this disease, whose very existence, perhaps, was hitherto unknown to some experienced practitioners, is either not a rare one, or has increased to a great extent within the last few years. It is quite probable, however, that our ignorance of the disease arises more from the deficiency of observations than from its rarity in former times; and as an illustration of this, I will allude to the description of a well-marked case, with a coloured plate illustrative of the *post-mortem* appearances, in Cheyne's *Essays on the Diseases of Children*, published in Edinburgh in 1801; the author also mentions other instances in which several children in the same family died of this affection. Capuron (*Traité des Maladies des Enfants, jusqu'à la Puberté*, Paris, 1820) describes the disease, but does not allude to its extreme fatality. On the other hand, it is not a

little remarkable that men of such large experience as Churchill and West should barely allude to the subject. The latter, whose work on the *Diseases of Infancy and Childhood*, "contains the results of 640 observations, and 199 *post-mortem* examinations, chiefly made among 16,276 children" who came under his observation, has never met with a single case.—Second edition, p. 417.

Of late years several able articles on this subject have appeared from time to time in medical periodicals. I would especially notice one by Mr. Ray in the *London Medical Gazette*, for March, 1849, vol. xliii., and another by Dr. Manley in the same journal for May, 1850, vol. xlv., as containing admirable descriptions of the disease, but founded upon a small number of observations. The only instance of any attempt at statistical results from the comparison of a number of cases, so far as I know, is that by Dr. Bowditch, based upon twelve observations (*American Journal of the Medical Sciences*, 1850, p. 63). The recent occurrence in my own practice of a fatal case of this affection (being the second instance which I have met with), has induced me to make a collection of such cases as were within my reach, in the hope of contributing something towards clearing up the obscurity which surrounds this subject. Besides those cases which are reported in the journals, I am indebted to the kindness of friends, and to the courtesy of other gentlemen, with whom I am not personally acquainted, for a large share of the observations whose results will be given below. Whilst gathering these materials, I have carefully excluded all those cases in which the hemorrhage may be considered as accidental, or traumatic, such as where the cord was imperfectly tied, or had shrunk after being tied, or where the ligature was prematurely removed; and have retained only those in which the bleeding appeared to be wholly idiopathic. I am aware that an analysis of forty-six cases cannot furnish results which are to be relied upon with great confidence; nevertheless, as I believe it to be more complete than any that has yet appeared, I offer it to the Society, in the hope, at least, that it may induce others to make careful observations of any similar cases they may happen to meet with, and thus to render more complete our knowledge of the nature and treatment of the disease.

For the sake of convenience, I shall arrange the results I have obtained under the following heads: General Description and Course of the Disease; its Symptoms; Pathological Anatomy; Nature; Causes; Diagnosis, Prognosis, and Treatment.

1. *General Description.*—Umbilical hemorrhage is a disease whose first symptoms are observed a few days after birth, and generally after the separation of the umbilical cord. A slight oozing of blood is perceived from the navel, which is at first easily arrested by compression or styptics, but returns in a few hours. A renewal of astringent or caustic applications is followed by only temporary relief, or by none at all. The bleeding continually recurs, and the child dies from exhaustion at the end of a period varying from a few hours to several days. If the hemorrhage be controlled by a

ligature, and in other cases where no ligature has been applied, extravasations of blood appear upon various parts of the surface of the body, and the mucous membranes, and after the separation of the ligature, the hemorrhage usually returns. Accompanying these symptoms, and occasionally preceding them, there is often well-marked jaundice, and infrequent, light-coloured dejections from the bowels, indicating derangement of the functions of the liver. The subjects of this disease are frequently robust-looking, and apparently healthy at birth, and born of healthy parents. They appear to suffer little or no pain. A majority of the patients are of the male sex, and there is a predisposition to the disease in certain families.

2. *Symptoms.*—These are reported in thirty-nine cases. A large proportion of the children (twenty-six out of thirty-two), were to all appearance perfectly well at birth. Many are described as being "stout and healthy," "large, plump, and hearty," &c. Six were feeble at birth. In nine cases no symptom intervened between birth and the hemorrhage, which in one case did not commence until the eighteenth day after birth. In general, however, the fatal symptom was preceded by others, of which the most remarkable was jaundice, which was noticed in twenty-two cases. Besides these, a "saffron hue" was observed four hours after death, in the body of a patient who had constipation and clay-coloured stools during life, and in three others the skin is described as sallow, or light yellow. One of the latter had profuse hemorrhage on the evening of the day on which the cord separated, which was finally arrested, and the child lived. Six years afterwards she had an attack of jaundice from which she recovered. Only one patient with well-marked jaundice recovered. The jaundice was the first symptom noticed in ten cases. Along with jaundice there was in most cases constipation and clay-coloured stools, the former symptom being noticed six times, and the latter nine times.

The association of jaundice with the hemorrhagic diathesis, is well shown in the following cases, which are reported by Dr. W. C. Anderson in the *Boston Medical and Surgical Journal*, vol. xli. p. 442 (for 1850). A mother who had lost a female child from umbilical hemorrhage, with jaundice and purpuric spots, had had another daughter previously, who at the age of four months, became icteric, and had purple spots without hemorrhage, and recovered. A woman who lost a child on the eighth day from umbilical hemorrhage, with jaundice and purpura, had another who died on the fifth day with jaundice and purpuric spots, but without hemorrhage.

The time at which the hemorrhage commenced was exceedingly irregular, varying from a few hours to the eighteenth day after birth, the average of forty-one cases being the eighth day. In four cases, it began before the separation of the cord; in three, immediately after; in others, at periods varying from one to thirteen days; the average of nineteen cases being five and a half days. There is no apparent connection between the condition of the child, and the length of time which elapses before the commencement of bleeding.

Thus, in one child which was quite feeble, there was no bleeding until the thirteenth day after birth, and the fifth after the cord fell off. In another feeble child, the hemorrhage began on the second day, before the separation of the cord. A child, which was "plump and hearty" at its birth, began to bleed on the third day; a "stout and healthy" infant on the sixteenth day, &c.

The character of the flow of blood is not generally described, although it is easy to infer that in most cases it was a continuous oozing, rather than a jet. Out of eleven cases in which these particulars were recorded, the former state of things occurred eight times, the latter three times. The appearance of the blood during life is noticed eight times. In one instance only did it coagulate. In seven it did not coagulate, and in most of them it was thin and light coloured. In one instance it contained bile, as was evident from the yellow stain which it imparted to linen.

Ecchymoses were noticed in twelve cases. They generally existed in considerable numbers in various parts of the body, and also on the tongue, and inside of the mouth. In one case they preceded the bleeding, in one they followed it, and in four they appeared immediately after the arrest of the bleeding by the ligature, as if the blood, being checked in its onward current, had been forced to find a vent elsewhere.

Pain was noticed in four instances; in two, it appeared to be caused by extending the legs. The observations are necessarily very imperfect in this particular.

Cerebral Symptoms occurred four times; in three the patients (one of whom recovered) appeared almost comatose. One child died with symptoms of compression of the brain.

Condition of the Bowels.—Clay-coloured stools and constipation usually accompanied jaundice. The former occurred nine, and the latter six times. In three instances, the dejections were bloody; in two, they were green, and in one of these "regular."

Vomiting was recorded in one case only.

3. *Morbid Anatomy.*—The results of thirteen autopsies show that there is no one lesion which is constantly found.

The *umbilical vessels* were examined in eight instances. In seven, all the vessels were pervious; but in one of these the vein and left artery were almost entirely obliterated, the right artery being pervious. In another, the vein was contracted, without being obliterated, and the arteries resembled white cords, the canals being very narrow. In one case the arteries were closed, but the vein was pervious. In one case, all these vessels were obliterated: this patient died on the tenth day.

With regard to the other fœtal openings, the statistics are not sufficiently numerous to be of any value. The ductus arteriosus was found closed in two cases, and nearly closed in two others. The ductus venosus was open in one

case, and closed in one. In one observation it is noticed that the foramen ovale was open.

The *liver* was examined in seven cases. It is described as

Full, firm, dark-green, in	1 case.
Of natural size, colour, and consistence, in	1 "
Of normal size, olive-brown colour, the free edge ecchymosed, in	1 "
Yellow, flaccid, soft, adhering to and staining a cloth like feces, in	1 "
Large, reddish-brown, in	1 "
Of normal size, soft, full of bile, in	1 "
Slightly congested and denser than usual, in	1 "
Not described, in	1 "

The *gall-bladder* was noticed in seven cases. In one, it was empty and contracted; in one, it contained a small amount of bile; in two, it was distended; in one, it was "not distended;" in one, it contained a light amber fluid. In all these cases there was icterus except the last, in which nothing is said of it, though the dejections were reported to be "white like milk, the patient never having passed anything like meconium or bile." This patient died on the twentieth day, having begun to bleed eight days after the separation of the cord. In one, it was small, collapsed, containing only a little mucus (the ducts, in this case, were wanting); in one, it contained a quantity of bile, which could not escape, owing to the ductus communis being plugged.

The condition of the *gall-ducts* was reported seven times. In four cases, they were all pervious; in one, they were "wholly absent;" in one, the ductus communis terminated in a *cul-de-sac;* in one, the same duct was completely closed by a plug of inspissated bile.

The abdominal viscera were tinged yellow in four cases, from the presence of bile in the tissues. Ecchymoses, in various organs as well as the skin, were noticed in two cases.

The state of the *blood* is described, in three instances, as being pale, thin, liquid, or containing slight coagula. In one case, there was pus mixed with blood in the umbilical arteries.

4. *Nature of the Disease.*—The facts which I have collected lead me to think that idiopathic hemorrhage from the umbilicus in young infants is only one of the various manifestations of the hemorrhagic diathesis which, in other cases, is exhibited in bleeding from the gums, mouth, stomach, intestines, &c., and in the appearance of purpuric spots beneath the skin in various parts of the body. In proof of this, we see the concurrence of these phenomena with umbilical hemorrhage. Thus, nothing is more common in the latter disease than a purpuric eruption. In three cases, there were bloody dejections, and in one, bleeding from the gums. Another argument is the thin and watery condition of the blood, and its great deficiency in fibrine, whereby mechanical means become almost wholly inefficacious to arrest its flow.

Although occupied at present with a single local manifestation of this affection, its dependence on a constitutional cachexy should never be lost sight of, especially in connection with the subject of treatment; for, unless means be adopted for correcting the constitutional difficulty, local applications offer but a slender chance of saving the patient.

5. *Causes.*—The causes which have been assigned to umbilical hemorrhage comprise hereditary predisposition, the influence of sex, derangement of the functions of the liver, and an imperfect closure of the umbilical vessels.

In what way the *condition of the parents* was concerned in the production of the hemorrhage it is not easy to ascertain. Of the health of the fathers little or nothing is said. Of twelve mothers, eleven were healthy, one was feeble. It is evident that the disease may be the result of some inherited peculiarity, because, in several instances, two or more children in the same family have been affected in the same way. At the same time, as Dr. Manley remarks, these cases differ from the ordinary rule in the history of *bleeders*, for in none of them is the direct transmission of the hemorrhagic constitution clearly proved. He alludes, however, to one case (not included in my collection), in which a woman, who had been liable to copious epistaxis, and whose mother and sister were also subject to hemorrhage from various parts, lost a male infant, on the third day after birth, in consequence of hemorrhage from the navel and the gums. The same law obtains in this as in other transmitted diseases, namely, that while some of the children succumb to the malady, others escape it altogether; thus, in four instances, the mothers each lost two children from umbilical hemorrhage, and each had two living and healthy; one woman lost three, and three others were healthy; another lost two, and had three living. Other similar cases are also alluded to by the reporters of some of these observations. Nothing has been observed in the condition of the mother which could account for the disease transmitted to her offspring, nor does her health appear to differ during successive pregnancies which have resulted in healthy children and in those born with the hemorrhagic tendency. How far the *imagination* of the mother can have any effect on the production of this or any other disease in her child, can only be ascertained by numerous and accurate observations. A case bearing on this subject will be noticed hereafter.

Out of fifteen cases in which the nature of the *labour* was noticed, it was natural in fourteen and difficult in one. This last case occurred at the Lying-in Hospital in Boston, under the care of Dr. William Read. It was a case of twins. The first child presented the shoulder. Spontaneous evolution took place, the breech presented, and the child was stillborn. The second child was quickly and easily expelled, but was feeble. It began to bleed on the second day, and died on the third.

Sex.—The predisposition of infants of the male sex to this disease is remarkable, and is particularly alluded to by Mr. Ray. The comparison of a large number of observations have shown the disproportion to be less than he

thought it. Unfortunately, in a number of the cases, the sex was not noticed; but out of thirty-two cases in which it is alluded to, twenty-two (or 68¾ per cent.) were males, and ten females. Whether this difference be anything more than accidental, can only be ascertained by more ample statistics.

The remarkable proportion of cases in which *jaundice* was noticed (twenty-two out of thirty-nine, or fifty-six per cent.), shows it to be something more than a mere coincidence. Whether, to use the words of Dr. Cheyne, the bleeding proceeds "from the unhealthy change produced in the blood by the reception of the bile into the mass of fluids," becomes a question of interest, especially when considered in connection with a class of cases in which icterus in adults was accompanied by a remarkable tendency to obstinate and even fatal bleeding from slight wounds, such as scarifications or leech-bites. Several such cases are quoted in Dr. Manley's paper, and others have been reported to this Society by Dr. J. B. S. Jackson, all of which tend to show that the presence of bile, or of some of its elements in the blood, appears to diminish the coagulating power of this fluid. The jaundice itself was satisfactorily explained in three instances by the absence or obstruction of the bile-ducts; but in four cases the ducts were pervious. It is plain, however, that derangement of the biliary function does not play an indispensable part in the production of the disease, since in three cases it was noticed that there was no yellowness of the skin, and in five the autopsy showed the liver to be, to all appearance, healthy. Moreover, a remarkable case is reported by Dr. Campbell, in which icterus commenced on the day after birth, and the child died at the age of six months. The liver was so large as to fill the greater part of the abdomen, and neither a gall-bladder nor bile-ducts could be discovered. Yet, in this case, there was no hemorrhage. The association of these two phenomena, and, at the same time, their independence of each other, are shown in the following cases, communicated to me by Dr. A. Hooker, of East Cambridge, who says: "I attended a woman, to all appearance healthy, and who has good labours. She has lost four children from umbilical hemorrhage. She has since had a child which presented a slightly jaundiced look, but no hemorrhage took place, and it did well." The other case is as follows: "A mother had two children, who are now alive and well; but one of them had jaundice at the age of four or five. She has since had two others, both of whom died of umbilical hemorrhage, preceded by jaundice.

The *state of the umbilical vessels* has been supposed to be quite sufficient to account for the hemorrhage in many cases. I am far from thinking that a pervious state of these vessels, a few days after birth, ought to be considered as a pathological condition, and, in this opinion, I am supported by Mr. Ray, who says he has frequently found them pervious in children of a month or six weeks, who died without bleeding; hence, this condition alone cannot be enough to account for the hemorrhage in those children who *did* bleed. Dr. Manley, however, believes that, in some of the cases, "this natural process was defective, and not sufficiently advanced." He quotes the results of observa-

tions of Billard and Bernt on this subject, who agree that the process of obliteration *commences* as soon as the second or third day after birth; but, unfortunately, nothing is said as to the time when it *terminates*. If the hemorrhage were owing to the open state of the vessels, why should it not be arrested permanently by the ligature, as in any other bleeding vessel, instead of returning after the ligature came away, which it did in almost every instance? An example of the persistence of an umbilical artery in an adult, which proved very embarrassing during an operation for hernia, may be found in the *Brit. and For. Med.-Chirurg. Review*, for April, 1852, p. 553.

6. *Diagnosis.*—The diagnosis of umbilical hernia is easy, and is only liable to be confounded with accidental bleeding, such as occurs from an imperfectly tied cord, or one which contracts very much after being tied. In no case that I have met with did the bleeding take place from the *end* of the cord. It proceeds by exudation from the sides of the cord (where that has not fallen off), from the margin of the umbilicus, from granulations at the bottom of the cicatrix, or directly from the umbilical vessels. The frequent coexistence of jaundice with this affection should always be borne in mind, and whenever a new-born infant becomes very yellow, especially if there have been other cases of umbilical hemorrhage in the family, every precaution should be taken to prevent bleeding. Ecchymoses may also sometimes serve as marks of the disease before the appearance of the fatal symptoms. I believe they seldom fail to be followed by it; but they are not of frequent occurrence.*

7. *Prognosis.*—Out of forty-six cases, thirty-nine, or more than eighty-four per cent., were fatal at periods varying from six hours to six weeks after the commencement of hemorrhage, the average of twenty-seven cases being six days. Six of these children died on the day after the bleeding began; five on the second day after; three on the fourth day. From this we see that umbilical hemorrhage is an extremely fatal affection. Even in those children who are apparently robust, and seem to offer the best chance for recovery, the prognosis must be very guarded, while, in feeble infants, it is almost inevitably fatal. We must not, however, forget that many cases which recovered are perhaps not reported. The descriptions given of the favourable cases prove that they were genuine examples of the disease; hence, although the chance of recovery is excessively small, the prognosis is not absolutely fatal in every case. Jaundice appears to be a very grave symptom, since only a single case recovered in which it had been observed.

8. *Treatment.*—The treatment consisted in various astringent, styptic, and caustic applications to the navel, and the internal exhibition of substances supposed to act specifically on the liver and on the blood. Among the former class were lunar caustic, acetate of lead, tannic acid, alum, matico, the actual

* Since the above was in type, a fatal case has been reported to me, in which the first symptom noticed was an extravasation on one eyelid. The child was large and vigorous.

cautery, &c.; also plaster of Paris, pressure, and the ligature. The latter included mercurials, taraxacum, sulphate of soda, cathartics, &c.

The treatment employed in those cases in which the hemorrhage was permanently arrested was principally the following:—

Compression in	3 cases.
Ligature in	3 "
Collodion in	1 case.
Plaster of Paris in	1 "
Scrapings of sole leather in	1 "
Nitrate of silver in	1 "

But in three of these cases the patients died, eventually, from exhaustion, or diseases evidently caused by the feeble condition of the child.

It is recommended by some writers to cut down upon the bleeding vessel and tie it. This must be a very difficult, if not impracticable operation, even in the small number of cases in which the bleeding comes from a single vessel. I think the ligature *en masse* is easier, safer, and more effectual. The ligature, however, will succeed in a very small number of cases, unless the diathesis upon which the malady depends be corrected. The same may be said of styptic and caustic applications, which in four cases actually appeared to increase the hemorrhage.

The internal use of astringents and tonics appears to me to have been too much neglected in the treatment of these cases. I find but a single instance of their employment among thirty-three cases whose treatment is reported. We employ such remedies in purpura hemorrhagica, in scurvy, and other hemorrhagic diseases of adults; why should they be omitted in a disease so similar in its character in infants? The instance referred to was communicated to me by Dr. S. S. Whipple. The child, a male, was to all appearance perfectly sound, and weighed between nine and ten pounds. It was born on the 10th of May last, of robust parents, and after a perfectly natural labour. Thirty hours after birth, Dr. W. was called to it, and found blood issuing from around the umbilicus, rather by exudation than from any disturbance to the integrity of the parts. It was not disposed to coagulate, and was compared to cranberry juice in consistency and colour. It was immediately checked by a solution of the sulphate of copper. At the end of twenty-four hours, the hemorrhage returned, more profuse, with extreme prostration. The action of the heart was imperceptible; and the respiration was accompanied by a feeble moaning. The bleeding was again arrested by styptic applications, and tincture of the muriate of iron, with brandy, was given in as large doses as the patient could bear. He soon revived, with a healthy appearance, and commenced taking the breast. The discharges from the bowels and bladder were natural, and he continued to improve in strength and appearance for four days, during which time the cord was detached without hemorrhage. On the 9th day (second from the separation of the cord), the bleeding commenced

again, and he died on the 10th. In this connection, I will also mention an interesting case lately reported to the Society by Dr. W. E. Coale; there was no bleeding from the navel, and, therefore, the case is not included in my tables; it is evidently identical in its nature with the others: A female child began to vomit blood the day after its birth. The next day she also passed considerable quantities by stool, so that two towels were saturated with it. One drop of the aromatic sulphuric acid was given this day at 11 A. M., and continued every two hours. On the third day, the hemorrhage had diminished; on the fourth, it was still less; but the child was pale and very feeble. A quarter of a grain of sulphate of iron in solution was now substituted for the acid. On the fifth day, the symptoms improving, the medicine was ordered every four hours; and the intervals being gradually lengthened, it was left off on the seventh day. The child recovered perfectly. So far as two cases teach anything, these afford some encouragement, and the use of the mineral acids, or other astringents and tonics should always be tried.

As to local treatment, we have seen that the ligature and pressure were each successful in three cases, and that caustic and styptic applications generally failed. The most that can be hoped from local application is a temporary arrest of the bleeding until the condition of the blood can be improved. The ligature appears to me the most likely to effect this, and the sooner it is employed the better, since every drop of blood is of importance in such young subjects. I believe the best mode of employing it is to transfix the umbilicus by two needles at right angles, and wind the thread tightly underneath them.

It is important to sustain the strength of the patient by nourishing diet and stimulants; the apartment should be cool, the clothing light, and every effort made to prevent the child from crying.

I am indebted to Dr. M. S. Perry for a valuable suggestion concerning the prophylactic treatment to be employed by women who have already given birth to children with the hemorrhagic diathesis when again pregnant. Observing that women accustomed to take alkalies in considerable quantities during pregnancy, for dyspeptic or other symptoms, were peculiarly liable to hemorrhage after parturition, he has been in the habit of interdicting such remedies, and of substituting for them the mineral acids with very satisfactory results. Dr. Perry suggests that the use of the mineral acids during pregnancy by women whose children have been affected with umbilical hemorrhage might be followed by favourable results. The experiment is worth trying.

The following extract from the letter of Dr. Whipple (before referred to) is worthy of attention: "I will mention a singular coincidence in the case, which must be taken for what it is worth: Some time in the latter months of pregnancy a female friend told the mother to be sure and caution her attendants about the navel, as a friend of hers had had much trouble from carelessness of a like kind. She said she had felt great solicitude from that time; the description of the bleeding child gave her feelings something of a shock, and she was

frequently heard to speak of the circumstance to the nurse before her confinement." In our ignorance of the precise extent of the influence of the imagination of a woman upon the physical organization of her offspring, it is surely worth while, on all accounts, to urge upon the mother the expediency of avoiding those useless anticipations of evil in which pregnant females are prone to indulge.

It has been suggested that tying the cord before its pulsations have ceased may be a cause of hemorrhage in new-born infants. No light is thrown upon this question by the statistics I have collected, except that in one fatal case the cord was not tied until it had ceased to beat. Mr. Ray says that he has observed the cord pulsating even after the placenta was thrown off, and that in other cases it has seemed as if the child did not begin to breathe and cry vigorously until the cord was tied.

For convenience of reference, the most important of the foregoing results are subjoined:—

Mothers healthy in	11	out of	12	cases, or	91⅔	per cent.
Labours natural in	14	"	15	"	93⅓	"
Children born healthy in	26	"	32	"	81	"
Male children in	22	"	32	"	68¾	"
Jaundice in	22	"	39	"	56⅖	"
Ecchymoses in	12	"	39	"	30	"
Umbilical vessels pervious in	7	"	8	"	87½	"
Gall-ducts pervious in	4	"	7	"	57	"
Liver apparently healthy in	7	"	8	"	87½	"
Fatal cases in	39	"	46	"	84	"

Day on which hemorrhage commenced, average of 41 cases, . . 8th day.
Average duration of 27 fatal cases, after commencement of hemorrhage, ... 6 days.

ART. III.—*On Cell Organization.*—By JAMES J. WARING, M. D.

SCIENCE is man's interpretation of facts daily presented to his senses; but for the acquirement of these facts he is indebted to his own hands and the instruments which his own ingenuity has placed in them. It is obvious, therefore, that striking advances in the means for observation must ever create epochs in the history of science. The sixteenth and nineteenth centuries present two such epochs. In the sixteenth, Galileo's gift converted astronomy, then little more than a sluggish speculation, into a vast science, capable of grasping and fixing down to mathematical demonstration, truths too grand to realize. It enabled the astronomer to mount into regions of space, and convert into orbits and tangents soil consecrated to the gods. And

in the nineteenth, the microscope, slowly, yet finally, developed in all its powers, has achieved no less. It has made that a science which was before an art, and bestowed upon the followers of Æsculapius principles, where before they only possessed rules. It, too, has not spared the domain of myths and fables, but has converted into physical and chemical processes, into *plastic* and *metabolic* powers, the "fire of Prometheus." Yet, with the exception of that chosen band of men, who have either devoted their lives to the pursuits of science, or, at a distance from its engrossing interests, have watched with pleasure its developments and appropriated its practical lessons, few are cognizant of the achievements made by this noble instrument during the last thirty years. It has not merely added *details* to physiology, but has given to it a totally new aspect; for its discoveries have admitted of a comparison and generalization which have justly entitled it (physiology) to the rank of "philosophy." It has not merely opened to the investigations of men the treasures of the infusorial world, rich in varied forms of beauty, and wonderful in its minute yet perfect mechanism of organized beings; it has not merely furnished material for the elucidation of questions of much geological interest, but has added one crowning achievement, in comparison with which all others sink into insignificance—"the reduction of all organized structure to an elementary form, the cell."

The invention of the microscope is involved in much obscurity, and its early history, at best, is only an idle speculation. Roger Bacon, an Englishman who flourished about the third century, possesses the uncertain distinction of having invented both telescope and simple microscope; and Zacharias Jansen, a Dutchman, who lived towards the close of the sixteenth century, possesses the equally uncertain distinction of having invented the compound microscope. Be this as it may, it is certain that the foundation of the Royal Society, in the seventeenth century, was the commencement of an era remarkable for optical science. The early volumes of its transactions are filled with endless modifications of the microscope, and literally teem with discoveries made through its instrumentality. These, however, were of minor importance, and two centuries passed away before any of moment were made. The difficulties of chromatic and spherical aberration rendered all efforts for the improvement of the microscope ineffectual, and the instrument, during this period, remained in a very imperfect state. Science and learning were doomed to disappointment in the very vestibule of glorious discoveries. These difficulties, however, were at length surmounted, in 1754, by Mr. Dolland, who invented the achromatic lens. Upon this discovery, the telescope immediately started into full vigour, and became an instrument of the highest powers, only ceasing to advance from the mechanical difficulty of making object-glasses over sixteen inches diameter, free from flaws and striæ. Not so with the microscope; it continued an imperfect instrument, in spite of the discovery; so that, whilst the great truths of astronomy date from this period, those of physiology are only now in process of development. It may seem strange to us, at the pre-

sent day, that, when the only defect in principle, the only real obstacle had been surmounted, the microscope should have remained stationary; but it is to be remembered that whilst, in the telescope, the distance of the object requires a considerable focal distance, necessarily large glass, and slight curvature—in the microscope, the nearness of the object requires a small focal distance, a small glass, and a great curvature. Hence, a mechanical difficulty arose in the application of the principle to the instrument. Little more was heard of the microscope till the year 1823. In this year, experiments were set on foot in France by M. Sellegues, and followed up by experimenters of Munich, Modena, Paris, and London, which resulted in a complete triumph. In the following year (1824), the most memorable in the history of the microscope, the gentleman first named presented to the Academy of Sciences an instrument with an object-glass of four achromatic lenses; and in the same year, without a knowledge of what had been done on the Continent, a Mr. Tully, of England, constructed a compound microscope with an achromatic object glass, as perfect as any of similar power made at the present day. The instrument thus invented did not possess the great magnifying powers which it afterwards acquired, yet was considered so perfect as to give rise to the boast that "the microscope was placed completely on a level with the telescope, and, like it, must remain stationary in its construction. Science, however, still continued indefatigable in labour and research. Achromatization continued to be a subject of close thought and deep study to many, until, finally, in the year 1829, Joseph Jackson Lister, Esq., in a paper which he read before the Royal Society, suggested those improvements which have placed it on its present high footing.

We now naturally turn to inquire, how far the microscope has repaid the cost and labour expended upon it. That it has done so, there can be no doubt. Indeed, it will be interesting to find that the discoveries and truths of physiology have kept even pace with its development, and that they become a sequel to its history.

Previous to the year 1830, the date of Mr. Lister's communication to the Royal Society, little more than a surface knowledge of minute microscopic anatomy prevailed. An imperfect division into functions, organs, and tissues existed, but not sufficiently so to deserve the name of science. Hook, Grew, Malpighi, Leeuwenhoek, and Lieberkühn deserve the highest praise for their discoveries, which are wonderful when we consider the imperfect means for observation which they possessed. The cellular structure of plants was discovered, in 1619, by Robert Hook, an account of which may be found in his *Micrographia*, published in 1667. Marcello Malpighi, a professor of Bologna, gave a still more accurate account of their structure in his great work, *Anatomi Plantarum* (1670). He not only confirmed the observations of Hook, but went a step farther, and maintained that all vegetable tissue was composed of cells, which he called utriculi. Leeuwenhoek, a contemporary of Hook, first witnessed, in the web of a frog's foot, the truth of Harvey's proposition, and

Lieberkühn first described the follicular structure of the mucous membrane of the intestines. Yet these were not a recognition of the intimate structure, functions, and powers of cells upon which all physiological science is based! No writer, no observer, up to the year 1830, had propounded the individual existence of cells, and their influence upon the various functions of the vegetable and animal economy. It is true, they perceived and acknowledged that organic changes were made through the medium of cells, and thus recognized their general office; but how those changes were made, and how their germination, nutrition, and reproduction took place, they had not the faintest idea. Without instruments, they were without data from which to draw conclusions. For instance, they defined these cells to be "hollow spherical structures" (which Grew likened to the froth of beer), imbedded in a homogeneous substance, whose walls were composed of agglutinated fibres. They looked upon them as possessing a mysterious, vitalizing influence on the whole organism, which they called indefinitely "anima vita," and by other parallel terms. Such were the vague notions which were then held, and continued to be held, till Schleiden published his views and observations on the vegetable cell (*Phytogenesis, Müller's Archiv.*, 1838); and Schwann, his article on the *Analogy of Animal and Vegetable Tissues.*

These two gentlemen are regarded as the fathers of the cell-theory. Let us investigate the grounds of such praise. Previous to doing this, however, for the sake of future distinctness, I present a definition of the cell. In the language of Todd and Bowman: "An organized body is composed of parts distinct from each other in structure and function, and may be subdivided into a series of textures, each differing from the other in physical and vital properties. These tissues again are each the development of the simplest and most elementary organic form with which we are acquainted, a cell containing another within it (the nucleus of Brown and cytoblast of Schleiden), which again contains a granular body (nucleolus)."

Now, as I have said, ever since the knowledge of vegetable anatomy was sufficiently advanced to admit of a classification of the plant into tissues and organs, and the assignment of functions to those organs, the existence of cells and their influence in the organism were recognized. Moreover, the existence to the cell of a nucleus and its uniform presence in embryonic development had been pointed out by Robert Brown as early as 1833 ("Observations on Orchideæ," *Trans. Linn. Soc.*). It is true we are indebted to Schleiden for the discovery of the nucleolus, but this is the least of his merits. We must look further. In what, then, do we naturally inquire, does his great praise consist?

In early periods, the question of cell origin which naturally arose in the minds of physiologists was dismissed as of little importance; but, during the beginning of the present century, had been the subject of much speculation. Sprengel and Turpin supposed that cells originated from starch granules, a mere hypothesis which facts were unable to sustain. Raspail has given a

true explanation of the process; but so vague, and so destitute of demonstration as to attract no attention from the physiologists of his day. The latter, in his two works, "*Nouveau Système de Physiologie et Botanie*" and "*Chimie Organique*," has thrown out observations which show a truer conception of the nature and functions of the cell than had been shown by any writer of that period. Nevertheless, an Ishmaelite in the domains of science, he has gained little honour or credit for his originality; we, however, as lovers of truth, should bestow upon him a just meed of praise for his real priority in giving expression to some of the most important principles of the cell-theory. Thus, he first realized that the whole organic world is the varied development of a primary form, the cell. In his enthusiasm at the discovery, he says: "Donnez moi un point d'appui a dit la statique, et je souleverai le monde. La physiologie, &c., dit: Donnez moi un vésicule organique donée de vitalité, et je vous rendrai tout le monde organisé." Again, he first pointed out the true nature of the cell, and its important function of imbibition. He says: "La cellule * * est une espèce de laboratoire de tissus cellulaires qui s'organisent et se développent dans son sein. Les parois imperforées ont la propriété de puiser par aspiration, dans les liquides ambians, les élémens nécessaires à cette elaboration." And again, he first expressed, in intelligible language, the nature of germination by two elements, male and female. He says: "Toute cellule, pour élaborer les materiaux qu'elle secéle, au profit de son développement, a besoin de recevoir une impulsion vitale, c'est-à-dire, une fécondation spéciale a sanature. L'effet immédiat de cette impulsion vitale et fécondation est de déterminer, sur la paroi interne de la cellule fécondée, la formation d'un centre, d'un foyer d'action, qui devient alors à son tour l'agent fécondateur de toutes les cellules du nouvel être."

Still these opinions, thus thrown out, received little credence in the physiological world. They were justly regarded as speculations rather than demonstrated facts. In view of all these attempts and failures, Schleiden, in turn, puts to himself this simple question, "How does that peculiar little organism, the cell, originate?" and undertakes to give it an answer founded upon undeniable facts. He says: "As the constant presence of this nucleus in the cells of very young embryos and in the newly-formed albumen could not fail to strike me in my extensive investigations into the development of the embryo, it was very natural that the consideration of the various modes of its occurrence should have led to the thought that this nucleus of the cell must hold some close relation to the development of the cell itself. I consequently directed my attention particularly to this point, and was fortunate enough to see my endeavours crowned with success."

In this investigation he brought to light and proved certain facts which in their aggregate constitute the "Cell Theory," and which give to previous speculative "nothings a local habitation and a name." He, more especially, first pointed out the importance of the nucleus and nucleolus in the germination and reproduction of cells; was the first to describe their peculiar mode

of progress and development; and first laid down the no less important proposition that "each cell leads a double life; an independent one pertaining to its own development alone, and another incidental in so far as it has become an integral portion of the plant."

Though, as I have shown, the simplicity in structure of vegetable tissue was easily demonstrated, and its cellular and even cell structure became well known, a similarity of structure and development in animal tissue was never dreamed of. Plants, according to an old opinion, grew by imbibition into their parenchymatous structure of a nutritive material, which was with little variation converted into cells; but animals, endowed with vessels and a circulation, grew by the deposit around those vessels of an organized material, and tissues, into which no vessels were seen to reach, were called a secretion such as the epidermis, the nails, and hair, or were said to have a "plant like" growth, as in the case of the ovum. A few years previous, however, to the investigations of Schwann, an imperfect knowledge of the existence of cells in certain tissues of the body became known by experiment to certain observers. Thus, the cells of the adipose tissue, epithelium, and certain forms of cartilage in the embryo were described as perfectly "plant-like" in appearance. Müller had described with great accuracy the cartilage cells of the chorda dorsalis of embryos; Henle had in the year 1837 observed the independent growth of epithelial cells (I mean a growth independent of vessels); and Valentin, a little later, had remarked a notable likeness between the nucleus of epidermal cells in animals and epidermal cells in plants. But these were spoken of as mere fortuitous analogies occurring in vegetable and animal tissue, and gave rise to no *clue* from which could be deduced the existence of a uniform law of development in cell tissues. Fibres, cells, and molecules were formed each by their own peculiar arrangement, and a relation between fibre and cell, or cell and molecule, in their principle of development, never entered into the speculations of physiologists. When, then, Schleiden pointed out the importance of the cytoblast (*Kutos* cell, and *Blastos* germ) in the growth of vegetable cells, it naturally led Schwann, who had thought and studied much upon this subject, to seek for a similar property in animal cells. The chorda dorsalis and cartilage of embryos, already accurately described by Müller, furnished him ready material for observation. I need scarcely add that he found immediate confirmation of his happy supposition. Schleiden's cytoblast certainly seemed like the fairy's wand whose magic touch converted Schwann's tangled woof of material into the well-arranged threads from which was quickly spun the beautiful fabric of cell classification. It was but a step to pass to the examination of every tissue in the body, and meet with a similar result. He immediately published the result of his labours, and with it a classification of the tissues founded upon cell development. Many distinguished physiologists have made the subject of classification a study as well as an amusement, and have presented to the public classifications worthy of their authors. I introduce but one of these, however, the classification of Dr.

Leidy, of Philadelphia, which, though familiar to his own students, is not generally known.

CLASSIFICATION BY DR. LEIDY.

ULTIMATE PHYSICAL ELEMENTS OF ORGANIZED BODIES.

I. Blastema.
II. Amorphous granules.
III. Amorphous filaments.
IV. Amorphous membranes.

PRIMARY PHYSICAL FORM OF ORGANIC BODIES.

Organic Cell.

SECONDARY PHYSICAL ELEMENTS.

Tissues.

I. Cells isolated or free—Corpuscular tissue.

II. Cells aggregated or in laminæ.
1. Adipose tissue.
2. Epithelial tissue.
a. Mucous.
b. Serous.
c. Epidermic.
3. Glandular tissue.
4. Ganglionic "
5. Pigment "
6. Anonymous tissue, as spleen, &c.

III. Cells with parietes blended and contents removed.
Structureless membrane.
a. Basement.
b. Capsular.

IV. Cells with parietes blended with an intercellular substance.
1. Cartilage tissue.
2. Osseous "

V. Cells forming tubes with solid or fluid contents.
1. Capillary tissue.
2. Muscular "
3. Nerve fibres.
4. Dentine.

VI. Cells converted into a filamentous substance.
1. White fibrous tissue.
2. Yellow elastic "

VII. Cells converted into a prismatic column.
1. Enamel tissue.
2. Crystalline.

VIII. Cells converted into a corneous substance.
1. Pilous tissue.
2. Corneous.

The discovery, thus, of an analogy existing in the principle of development, of vegetable and animal tissues, was an important step taken in the history of Physiology, but not, however, more important than one since taken as to the nature and offices of the Germ. The nature and functions of the *Cell* have been thoroughly investigated, but the nature and functions of the *Nucleus* yet need such an investigation. Schleiden, as I have said, first

called attention to its important influence over the functions of the cell and its invariable presence; since his time, observers have generally recognized the fact, but have made no important investigations into the subject. In the year, 1849, however, a paper was published purporting to be a lecture delivered before the Royal College of Physicians upon Parthenogenesis, in which its author, Robert Owen, calls attention to the peculiar connection existing between the nucleus and the developing germ. I will make a few extracts from his paper in illustration of his views: "The phenomena that ensue upon the impregnation of the ovo-germ are essentially the same up to a certain point in all animals, and consist in the formation of a germ-cell and its propagation of a numerous offspring at the cost of a germ-yelk by a series of reiterated spontaneous divisions." "The right and clear comprehension of the object effected by this process is essential to the elucidation of the nature and relations of the subsequent modifications and varieties in the course of development." "The progeny of the primary impregnated germ-cell may be called secondary or derivative impregnated germ-cells." "The progeny of the germ-cell resemble their parent. They are germs of the tissues, and are called 'tissue germs.'" "Not all the progeny of the primary germ-cell are required for the formation of the body in all animals. Certain derivative germ-cells remain unchanged, and become included in that body which has been developed from their combined and metamorphosed brethren. These unoccupied germ-cells increase as we descend the scale of animal life." "The power of propagating by germination and spontaneous fission is in the ratio of the retention of the germ-cells, as such, in the constitution of the individual first developed from the primary germ-mass." "The force is exhausted in proportion to the complexity and living powers of the organism developed from the germ-cell and germ mass."

The meaning of the learned author cannot be mistaken. He has located the power of life, that mystery to man, in certain microscopic points distributed through the tissues, calling them tissue germs, and has urged the fact with such cogent argument, that it is impossible for us to shut our eyes to its truth. He evidently regards the life force as residing in this progeny of the germ-cell, and, by very clear demonstration in the paper referred to, regards the permanent nuclei of tissues or tissue germs as identical with these derivative germ-cells or nuclei.

But, though location is thus given to the germinating germ or life-force, and an *object* given to the curious changes of the developing germ, the exact nature or properties of this germ is yet open to speculation. This is the subject, therefore, which is now more peculiarly agitating the physiological world. The question is an important one; it is this: Are we to call all the processes going on in the body *vital*, or are we to restrict this term to certain powers alone? In other words, are we to regard all the processes going on in the body as the result of a *life force*, or are we to regard certain phenomena as a result of the ordinary physical laws, which would take place *with-*

out a living organism as readily as in it, if placed under similar circumstances. The two most striking views with which I am acquainted are those taught by Drs. Carpenter, of London, and Jackson, of Philadelphia. The former teaches that: All the various organic actions are so many modifications of a single force, acting through various materials. The latter teaches that: The organic force has no other power but that of developing and maintaining typical forms according to a creative idea; and these various forms of mechanism produce certain varied results by favouring the play of external agencies. Dr. C. confounds physical, chemical, and mechanical forces with the organic force. Dr. J. simplifies our idea of the subject by separating these forces from the organic force.

Having thus given a hasty sketch of all the most prominent facts and incidents connected with the history of the cell-theory, I again call attention to the question of priority in giving it birth, or to the propriety of calling Schleiden and Schwann the fathers of this cell-theory. Like all human knowledge, the cell-theory is not the achievement of a stated time or a single individual, but the collective work of years and many individuals. Hook, Malpighi, Brown, Raspail, Schleiden, Schwann, and Owen have each and all done their part, and each may represent the date of some important discovery. It is obvious, therefore, that we are not to determine upon whom to confer the honour of priority in its discovery, but upon whom to confer the honour of having made the most valuable contributions to its doctrines. The question is not as to the priority of doing the whole work, but of doing the largest and most valuable portion of it. In this view, Schleiden and Schwann deserve, as they have received, the most honourable acknowledgments for their valuable observations and discoveries which have contributed more than any other to give form and substance to the shadowy ideas which have generally prevailed upon this subject. With this, I dismiss a subject which cannot fail to interest deeply those who have read with pleasure the past achievements of physiology, and with the eye of speculation have penetrated the vail of the future, and glanced over the rich harvests promised to so youthful and vigorous a science.

ART. IV.—*Case of Double Uterus.* By WILLIAM KELLY, M. D., Physician to Blackwell's Island Hospitals. (With three wood-cuts.)

MARY H., aged thirty-seven, died in this hospital, March 27, 1852, of typhoid fever following delirium tremens. She had been married, and had given birth to three children, but for some time past had been leading a life of intemperance and vice. The post-mortem examination revealed profusion on the part of nature in supplying this woman with the organs of reproduction. She had two uteri, and each uterus was provided with its own cervix, its own os, and its own vagina. There were, however, but two Fallopian tubes, two ovaries, and two round and broad ligaments. Each uterus had its set. Each

uterus had also a single set of spermatic vessels. Of the uteri, the left was normal in size, shape, and color, but was bound with its ovary to the left side of the pelvis, while the right, with its ovary, was bound to the other side—the two joining each other at an angle of seventy-five degrees. The right was half an inch longer than its fellow, more cylindrical and of a deeper colour. It had a small fibrous tumour in its anterior wall.

The os of the right uterus was small and circular; that of the left, larger, cleft, and oblique, and gave indication, as also did the appearance of the uterus itself, that this organ had been impregnated.

The cervices were distinct, but firmly bound together for half an inch from the ora.

The vaginæ were each of the ordinary size; were parted by a stout septum, continuous from the vulva where it began in a thick pillar, visible on separation of the labia, and inserted into the space between the ora. Each vagina had evidently had its own hymen. The caruncule myrtiformes surrounded each of the openings, and occupied each side of the pillar.

The external parts presented nothing unusual except the aforesaid pillar.

The left ovary had a cyst in its anterior walls, of the size of a hickory-nut, and filled with a dark fluid. The right ovary was normal, but bound up with its Fallopian tube and ligaments by adhesions of long standing.

The Fallopian tubes were six and a half inches long; had their origin in each case from the middle of the fundus. In the left, the fimbriated extremities opened in a sort of efflorescence. Dissection discovered the opening of the right tube, and a probe could be passed through each to the body of its uterus.

The round ligament belonging to each uterus was inserted in each case into the fundus, to the left of the tube. This insertion of the round ligament was the only instance of departure from uniformity in the arrangement of any of the corresponding parts.

The accompanying sketches represent the appearance and peculiarities of this organ.

Fig. 1.

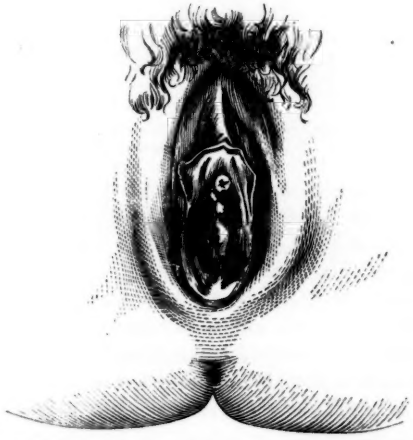


Fig. 1 shows the external parts with the pillar in which the septum, dividing the vagina, terminates.

Fig. 2.

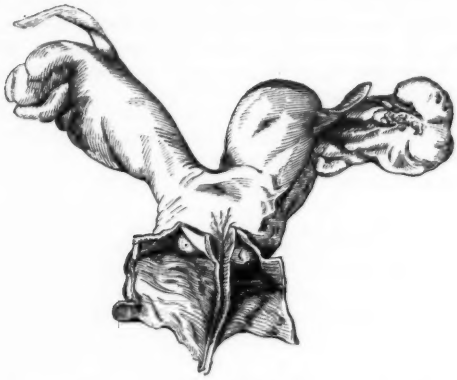


Fig. 2 shows the anterior view of the organ, with the peculiarities of ora, cyst of ovary, tumour in right uterus, and difference, in shape and size, of the two uteri.

Fig. 3.

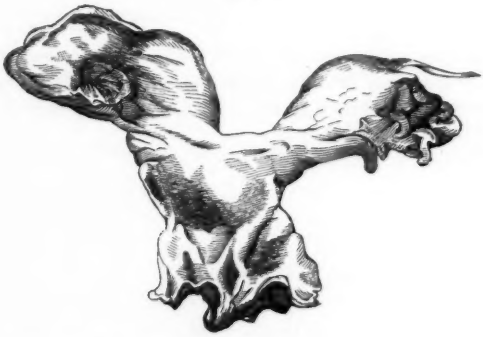


Fig. 3 shows the posterior view of the same, with the convolutions of Fallopian tubes and efflorescence of left fimbriated extremities.

The specimen to which this case relates has been exhibited before the Pathological Society of New York, and will shortly be deposited in the Museum of the College of Physicians and Surgeons. It is, I believe, as complete a double uterus as has ever been described.

Voigtel (*Handbuch der Pathologischen Anatomie*) is the great authority on this subject. He has collected, with much industry, a large number of cases, illustrating the abnormal forms which this organ has at any time assumed. He arranges the cases of plurality in three classes:—

First. Those in which the cavity of the uterus is merely divided by a septum.

Second. Those in which the body is double, but the aperture and vagina are single.

Third. Those in which the uterus, os, and vagina are each double.

Into this latter class, the specimen under consideration will fall. Yet Voigtel seems to think that the term double uterus ought to be applied only to a case in which we have two ovaries, two Fallopian tubes, two broad and round ligaments annexed to each uterus. Such a case has never yet been found. The uterine appendages are always double. Two ovaries are furnished, when a single one, with a single tube to serve it, might have sufficed. Birds have but one ovary. But the rule that nature has adopted with the mammalia is to make these parts of the organs of reproduction double, and she needs but to make the body of the uterus, the cervix, os, and vagina double, and she surely has a double uterus (the word uterus standing here as the representative of the whole apparatus). The first double uterus ever described was, according to Voigtel, given to the public by Cattus; the second, a bifid uterus, by Silvius; the third, also a bifid, by Bohmer.

Eisenman in 1752, A. D., found in a girl, nineteen years of age, a double uterus with a double os and a double vagina, each vagina having its own hymen.

Callisen published an account of a similar case about the year 1775.

Leveling describes, in 1781, a case of bicornous uterus with one cervix and one vagina.

Canastrini, in Hungary, opened a woman who had died in the fourth month of pregnancy, and found two uteri, one six, the other three and a half, inches long. The smaller one descended obliquely, and lost itself in the neck of the other. The fœtus had escaped by an aperture into the hypogastrium.

Count de Trassan, in 1752, related to the French Academy the case of a woman who had had many children, the youngest of which was five years old, and who finally died of some disease of the chest. The body was opened, and the uterus found of the shape that painters usually assign to the heart. There was only one external opening, but two distinct ones within, leading to two organs very complete and well organized. Inspection proved that each had been gravid, but it was impossible to tell which had been so most frequently. Trassan also related the case of a lady who had duly been confined of a healthy child, and experienced the usual sequelæ of confinement for the space of six weeks, when she was suddenly taken again with labour-pains, and gave birth to a living, though meager child, of five months' uterine gestation. The friends of the lady kept the affair a secret till after her death. Trassan explains this case of superfœtation by supposing that the lady had a double uterus.

There is a specimen of double uterus with double os and vagina, preserved in the Anatomical Cabinet at Heidelberg; also another in the Museum of the Royal College of Surgeons, London. One of the uteri in this latter case contains a fœtus at full time.

Voigtel gives reference to other cases of a similar kind, but I will not repeat them.

ART. V.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, M. D., Secretary.

April 12.—*Fibro-plastic Tumour from the Neck*—Dr. HENRY J. BIGELOW.—This, a fibro-plastic tumour of two years' standing, situated on the front of a young man's neck beneath the platysma, about the size of a pullet's egg, was easily detached without injury to the vessels. Removed, its appearance is lobulated; its colour white; cartilaginous substance in its centre, and some calcareous deposit. These tumours, the exhibitor remarked, were formerly denominated "*glandular.*" Often a tumour of this nature actually resembles, under the microscope, the tissue of the glands among or near to which it is seated. In this sense, the term glandular turns out to be really not inappropriate. This tumour showed eminently the secreting crypts of glands.

Encysted Tubercle of the Vertebral Inter-articular Fibro-cartilage.—Dr. G. H. GAY showed the specimen, taken from a dissecting-room subject, fifty years of age or upwards.

No history of the case is known. A vertical section being accidentally made of four or five dorsal vertebræ, the following appearances presented themselves, after washing away the soft, adhering powder produced in sawing, viz., great vascularity of the whole cancellated structure, which was studded with numerous, minute, reddish prominences, at first looking like the gray granulations of one form of commencing tubercle in bone; these were easily washed away by a slight jet of water; the cancelli were firm and hard, in some spots almost eburnated; there was no distinct, softened, infiltrated, or encysted tubercle in the bone, though there were two or three irregular cavities which may have been the seat of tubercular deposit at some anterior period.

Were those reddish prominences the "*granulations grises*" of Nelaton?

The inter-articular fibro-cartilages were all thinner than usual, as if compressed, and all were more or less diseased; their vertebral surface was very vascular, presenting a thin, reddish line completely encircling it, as if to form a cyst; in one, spot there was a cretaceous deposit, of the size of a pea, surrounded with a yellowish, friable, curdy mass, in a cyst; there were other small encysted masses, and one much larger than the rest, the cavity filled by which would easily admit the end of a finger. In this cavity was a yellowish-white substance of a consistence between that of putty and of a chestnut, presenting under the microscope the characteristics of tubercle, slightly decomposed, very friable, and breaking down upon the slightest pressure. This was inclosed in a distinct cyst about two lines thick, its cut surface having a red look, and from the inner, smooth surface of which the tubercle could be easily separated. The cyst and tubercular mass were confined entirely to the cartilage; the articular surface of the body of the vertebra above and below being excavated where the mass pressed, though there did not appear to be any loss of bony matter. In detaching the wall of the cyst and cartilage from the bone, the latter was found quite hard and smooth, approaching eburnation.

Some of the cartilage presented its natural look and firmness. There was a tubercular mass in one lung, *near its base*, as large as a pigeon's egg, somewhat more softened than the above.

Scirrhous Parotid Gland.—Dr. J. MASON WARREN showed the specimen, which had been successfully removed. The patient was a farmer

fifty-two years old. Twenty-five years ago, a tumour made its appearance in front of the ear. This imperceptibly increased, giving him no pain or inconvenience until two months since, when it was injured by a blow, and since then has rapidly increased in size. The night after the blow, he perceived that there was some insensibility in the skin in front of the tumour. For some time past he has been unable to close the right eye. "Now, there is an oval, prominent, even, well-defined tumour in front of the right ear, overlying the ramus of lower jaw, and occupying the position of the parotid gland. Its long axis is parallel with a line drawn from the angle of the jaw to the external angle of the orbit. Its greatest length is three inches, width two inches. Upper margin is on a level with the angle of the eye; lower margin with the angle of the jaw; posterior is overlapped by external ear. Integument is movable; not discoloured. Tumour is of firm consistence; not tender on pressure; not attached to bone, yet but slightly movable. Does not move with lower jaw; cannot be felt in mouth. There is much numbness of cheek in front, and a dull, but not severe pain in the tumour itself." (*Hosp. Record.*)

When the patient entered the Hospital, one or two glands in the neighbourhood of the tumour were enlarged, apparently from the effect of some irritating application he had made for the purpose of discussing it. Under treatment, these with one exception disappeared. He was extremely desirous of having the tumour removed, and on a consultation of the surgeons it was decided that the attempt should be made.

The patient being etherized with chloric ether, an incision was made from just above the superior border of the tumour to a little below its inferior part. This was crossed by another incision commencing at the mastoid process, and terminating on the cheek. The fibrous capsule of the gland was now cut into, and the tumour gradually loosened by dissecting carefully around its circumference. Its adhesions were so close, and the texture so firm that it was found impossible to proceed but with great caution; the vessels that were divided under the edges of the tumour being secured with much difficulty. The tumour was first loosened from its attachment to the zygomatic process, then dissected from the masseter muscle, the transverse facial artery and the parotid duct being cut away at this stage of the dissection. It was next detached from its firm adhesions to the sterno-mastoid muscle and mastoid process, and its adhesions to the ear and the trunk of the facial nerve cut off. Finally, by means of the blade and handle of the knife it was separated, from before backwards, from the great artery and vein which lay imbedded in its posterior wall, the latter being cut and tied. Four or five arteries required ligatures. An enlarged gland in the neighbourhood was removed separately from the tumour.

The mouth was found paralyzed after the operation. The eye which the patient was unable to close before, either in sleep or when awake, was found, a few days subsequent to the removal of the tumour, to drop down so as partially to cover the eyeball when he was asleep.

An examination of the tumour after its removal showed it to be the parotid in a scirrhous state; the microscope disclosing an abundance of cancerous cells; with it was included a lymphatic gland imbedded in its lower and under portions. Dr. W. states that he had once or twice removed tumours from this situation, apparently formed by the above lymphatic gland in a diseased state; the lower edge of the parotid being raised up and spread out on the surface.

The presence of the parotid duct and the facial nerve in the tumour now shown, together with its anatomical relations, left no doubt as to the organ diseased.

Dr. CHARLES E. WARE reported a case of *Intussusception.*—It occurred in a female child ten months old, nursing, but in the habit of feeding more or less. She was perfectly well on Wednesday morning, April 21, and had eaten pretty freely of minced salt fish, while the family were at breakfast. Early in the forenoon, while nursing, she suddenly stopped, was sick at the stomach, and vomited. The vomiting continued, with some indications of general distress, till the afternoon, when an injection was given. It came away without bringing much with it. The vomiting continued through the night, and Dr. W. saw the child at about 9 o'clock the next morning. It had just had a pretty copious discharge of bloody mucus, as the mother said, with some relief to the uneasiness. It was the first discharge of this character which it had had. The longest interval which had been passed without vomiting was about two hours. The matter vomited was greenish liquid. The child had refused the breast from the first; its countenance was pale and sunken. The respiration was hurried, with free action of the abdomen. The skin was quite natural. She would smile and take notice, giving no signs of fractiousness, nor of being in pain. The abdomen was not very tender. Nothing could be discovered by the touch. Pulse 140, of good character. She was put under the influence of Dover's powder, and continued in about the same condition through the day. In the evening, contrary to Dr. W.'s direction, a dose of oil was given which occasioned some distress. The next morning, at 8 o'clock, Dr. W. found her senseless and sinking. Abdomen much more full and tender. Sphincter ani entirely relaxed. Introducing the little finger, the tumour could be reached. She had had several dejections of bloody mucus, and nothing else. The vomiting had continued of the same character. She died at half-past 9 A. M., about forty-eight hours from the commencement.

Autopsy.—There was found an intussusception of a portion of the ileum, of the cæcum, of the ascending colon, and of half the transverse colon into the remainder of the transverse, and of the descending colon—the lowest portion being just twelve inches from the anus. The appendix was just projecting from the invagination, intensely red. The ileum, for several inches above the invagination, was very red and injected; but the rest of the intestines not at all so, nor was the colon below the invagination. There was no trace of peritonitis. There was about a gill of serum in the peritoneum.

Dr. CHARLES E. WARE also reported a case of *Valvular Disease of the Heart,* and exhibited the specimen. He was called, for the first time, April 22, at 11 o'clock P. M., to see a young woman aged 27. She had been in rather feeble health, and subject to palpitation for several years. Never had anything like rheumatism. She had rather a severe asthmatic attack, as it was called, attended by hemoptysis, in the December previous. Dr. W. found her sitting up in bed, livid, breathing like a person in asthma, and complaining of a most distressing palpitation. She had been, through the day and evening, as well as usual, and retired as well as usual. On getting into bed, the palpitation commenced. She had a similar attack about a week previous, which obliged her to sit up half the night. It then occurred after an unusual excitement. Her pulse was now strong, quick, and regular. There was no opportunity for any examination of the chest. She was unable to lie down, and was constantly tossing about in the greatest distress. She constantly hawked, and spit from her mouth, most copiously frothy mucus. The inhalation of sulphuric ether was tried, at first with benefit; but, as she got under the influence of it, with depression, which forbade the continuance

of it. Afterwards, under the influence of chloric ether and elixir of opium, she got relief from the extreme distress, and fell into a disturbed sleep. The violent action of the heart was not entirely checked. At about 4 o'clock in the morning, however, without warning, she suddenly died.

Autopsy.—Great rigidity. Extreme whiteness of the face and lips. Blood quite liquid, but with some coagula in the heart. Not an abnormal amount of serum in the pericardium. Appearance of heart normal. The mitral valves so contracted that they would not admit the little finger. The aortal valves very much thickened, with commencing vegetations. The thickening confined to that portion of the valve which is naturally the thickest. The auricle of the left side very greatly thickened. The left ventricle natural in thickness and character. The right side of the heart normal. The left lung very generally adherent: about eight ounces of fluid in right pleura. Both lungs very œdematous. No signs of tubercle. The bronchia filled with frothy serum. The mucous membrane of the primary bronchia of a deep livid red colour; as it extended into the smaller branches, it became of a natural hue. The right lung was very much condensed, varying in different parts, but quite as much so in the upper as the lower. In a very considerable portion, the lung was perfectly carnified, and admitted no air.

The case presented two points of considerable interest: The character of the pulse. Dr. W. had never felt the patient's pulse previous to the attack of which she died. During the paroxysm, it was of good strength and caliber, and so far as could be judged, when beating so rapidly, regular. This is contrary to the rule in mitral contraction. In a case which he reported to the Society some years since, of which the specimen is in the cabinet, and where the contraction was about the same as in the present specimen, the pulse was never so distinct that it could be counted, although the patient was frequently seen for a long time before her death. He thought it possible that the violent action of the ventricle upon a small supply of blood might, during a paroxysm of palpitation, give unusual strengtht o the pulse, although he did not remember to have noticed it in the former case. Another point was the condition of the right lung. The patient was as well as usual when she went to bed. There was no reason to suppose that there was any disease existing in the lungs at that time, certainly not of the character and extent which were found after death. And yet in five hours a considerable portion of one lung had become perfectly carnified, having the appearance as if the air had been expelled by disease rather than by compression from without, the effusion into the pleura not being sufficient to have occasioned it.

Sudden Enlargement of the Abdomen during Pregnancy. Death, a few days after.—Dr. CHANNING related the case. Mrs. ——, aged 20; married. Was called to see this case in consultation with the attending physician. On reaching the address, Dr. C. learned that, a week before, patient complained of pain in right side of trunk, reaching quite down to and through the pelvis on that side. At times, pain greatly increased, shooting up to right shoulder, side of head, and especially to the eyes. Vision at such times impaired, or lost. He was told that the patient was about four months pregnant. That she had been thought pregnant some months before her present state, and had successfully used the means of procuring abortion. In her present pregnancy had been troubled with vomiting for about two months; but this had ceased three or four weeks ago. She was still taking medicines for abortion, especially those sold by a woman named Restell, and had been taking them at the time of the attack, a week ago. She had been very hot; with very rapid

pulse; intensely flushed; at times delirious; very thirsty. Dr. C. found this history confirmed by seeing the patient. In addition, he found her to be very nearly speechless; that is, she was labouring to speak, but could hardly articulate a word. She obviously wished for something, but, with all her efforts, could not make her wants known. Swallowing was nearly impossible; violent choking and suffocation attended any attempt at deglutition. It did not seem that anything passed into the œsophagus. Tongue dark brown, dry, rough, cracked. The face was of the deepest crimson; eyes brilliant; skin hot. Pulse between 150 and 160; of sufficient strength. She was very restless. Respiratory sounds, or those accompanying breathing, were stertorous, resembling the dry, husky, shrill breathing of croup or laryngitis.

Examination of the abdomen furnished very interesting results. The abdomen was filled and distended by a large tumour, as hard, nay harder than is the impregnated womb. Flat on percussion, and without fluctuation. Tender on pressure. Auscultation discovered neither the placentary murmur, or *bruit*, nor the sound of the fœtal heart. Dr. Channing had not heard of this uterine or abdominal distension, nor of the suddenness of its occurrence. He inquired concerning these points, and learned that, previous to Friday last, a week ago, Mrs. —— was no larger than is usual at the fourth or fifth month. That, being down stairs, she told a friend of the sudden increase of size, and begged her to feel the abdomen. As she had never detected any fulness before, the present state of things struck her as very extraordinary. Her physician had seen her on Friday, before an attack of the pains in the abdomen, and elsewhere, as above described; but was sure that her size was then natural. He, however, had not stated that she had so suddenly increased in bulk.

Examination per vaginam.—This showed the vagina to be entirely empty. Its *cul-de-sac* was drawn up almost out of reach, and felt to be forcibly on the stretch. Os uteri could not be reached. It was at once inferred that, in the rapid growth of the womb (for the distension of the abdomen could not be well explained without referring it to enlarged womb), it had risen strongly into the abdominal cavity, and had dragged up with it its vaginal connections.

The question now arose, upon what this sudden enlargement of the womb depended. At first, it was asked if it did not depend upon *internal uterine hemorrhage.* Dr. C. had been called to a case of this kind occurring at a late period of pregnancy. Death had occurred before he reached the address, and this was only about ten hours after the first symptoms of uterine trouble were manifested. These were agonizing uterine pain, violent jactitation, paleness, faintness, sunken pulse, coldness, increased fulness and tenderness of abdomen, &c.—to ordinary symptoms of great hemorrhage. Examination discovered the womb to be full of blood; the placenta and membranes everywhere detached from the womb, and an eight months' child in its cavity. In none of its symptoms did the present case resemble that just briefly described.

The whole situation of the patient was so critical, and the extreme difficulty of deglutition so great, every attempt apparently threatening death, that it was pretty obvious she could survive but for a few hours only. Dr. C. learned, early in the morning following his visit, that Mrs. —— died at 8 o'clock the evening before, and about four hours after he left her house.

Autopsy, twenty hours after death.—External appearance and state, striking. The face, especially the cheeks, which had been intensely red the day before, retained their colour perfectly. The blush was so distinct that it seemed impossible that life had departed. The limbs were, however, perfectly rigid.

Sugillations existed in all their usual situations—neck, back, axillæ, &c. &c.; the whole state, in short, showing the questionless presence of death. The abdominal tumour was softer than before death, and had somewhat subsided.

Upon opening the abdomen, the womb was found reaching from the symphysis pubis to the epigastrium, and filling out fully the sides of the abdominal cavity. It was mottled, or rather streaked with dark, livid markings, which have never been before met with by Dr. C., and looking as if its cavity were filled with a dark fluid. The surface was perfectly smooth, and without any marks of inflammation of its peritoneal cavity. Upon raising the womb, the Fallopian tubes were found pairing off from its sides midway of the organ, precisely as happens to them at the close of pregnancy. The ovaries presented a very singular appearance. Upon raising the womb, they were seen hanging at its sides about five inches in length, and very closely resembling in shape the enlarged kidney, having the narrowing or depression of that organ at the pelvis. The ovaries were filled with a fluid in cysts. It did not resemble the ordinary oily fluid of ovarian dropsy. On the contrary, it exactly resembled water. The ovaries were distended with this liquid, and so weak were the cysts that they broke and discharged their contents on very slight pressure, or careless handling.

Upon opening the cavity of the womb, about four quarts of perfectly colourless fluid flowed out. At the close of the discharge, some blood appeared. This had probably been effused recently, or during the examination, as the water was not in the least coloured by blood. A fœtus was seen in the lower part of the womb in its membranes, and being removed, another fœtus was discovered still lower in the external cavity. Both were males, and the first seen was much larger than the other. The cords passed downwards, and were found springing from a single placenta, situated over the os uteri, and attached to its neck. The placenta was easily detached, being softened almost to the state of grumous blood. The decidua was very distinct in patches; but generally it was found separated from the uterine surface. The substance of the womb was about four lines in thickness, and seemed watery. There was no effusion into the peritoneal cavity. There was no other disease discovered.

Remarks.—The distinguishing fact in this case is the rapid increase in the size of the abdomen. It occurred almost in a day. It had been preceded by pains, and weakness, loss of appetite, great heat, rapid pulse. But the medical attendant felt sure that, up to the time above spoken of, one week before my visit, he had discovered no increased size. The question occurred, to what this rapid formation of fluid was owing; what was its source? Dr. Channing supposes it to have been secreted by the womb, and that it was collected between it and the membranes. He thinks the preceding symptoms show this, and that no case of excessive *liquor amnii*, in his recollection, presents such symptoms. In this last disease, the fluid collects slowly, and becomes a cause of trouble and distress by the over-distension accompanying it. Then, again, Dr. C. said, the very unusual state of the ovaries favoured strongly the doctrine that the fluid in the womb was directly produced from the organ itself, and not from one of the fœtal membranes. The ovaries were both of them very large, the right the larger, as was the fœtus in the right part of the womb much larger than the left one. This size was owing entirely to serous effusion into, and distension of the ovarian vesicles, as before stated. Dr. C. thought it was highly probable that the disease of the ovaries began at the same time with that of the uterus.

Of the treatment.—It was pretty clear on Friday, as Dr. C. remarked,

that treatment was out of the question, it being obvious that life, under such circumstances, could not be sustained much longer. It was proposed to puncture the membranes. But, in the first place, the os uteri could not be reached; and in the second, death would probably have been chiefly incident to the operation, so near to death was Mrs. —— at Dr. C.'s visit. The *autopsy* showed what was the situation of the placenta. Hemorrhage must have been the result of the operation above referred to.

From the whole history of the case, is it not probable that it was produced by the various measures which had been adopted to procure abortion? Others were referred to besides those above named, and doubtless together they produced the arterial disturbance, and ultimately the disease which ended in death.

Fibro-plastic Infiltration of the Skin.—Dr. HENRY J. BIGELOW showed the specimen, a piece of the skin of a female breast, as large as the palm of the hand, studded with cancerous-looking tubercles. The microscope declared their non-malignant character. The mass had been extirpated at the age of 10, 27, and now again for the third time, by Dr. B., the patient being 47 years old.

Fibro-plastic Tumour in the Parotid Gland.—Dr. HENRY J. BIGELOW exhibited a tumour of the size of a small billiard ball, removed from the parotid of a female. Tumour of twenty years' standing; very friable and granular. It lay deep behind the angle of the jaw upon the styloid process, and under the sterno-mastoid muscle.

Deafness, nearly total, following Sumatra Fever. Recovery ten months after. Reported by Dr. BETHUNE.—A gentleman, 30 years old, consulted Dr. B. on December 19, 1851. His health was generally good. Seven months before, he had fever in Sumatra, and on recovery found himself nearly wholly deaf, in which state he continued up to the time Dr. B. saw him. At that time he could hardly be made to hear anything. Tinnitus formerly, now none. No pain. He suffers much from cold in the ears and back of neck. On examination, meati wholly destitute of cerumen. Tympana somewhat opaque. He was ordered tr. iodini to mastoid processes; to be repeated every three to five days, according to the amount of irritation produced, and to take internally tr. hyd. oxymur. gr. one-sixteenth, three times a-day, gradually increased. (He had had leeches and blisters without relief.)

At the end of eighteen days he had somewhat improved in hearing, and soon after reported a further improvement, and a diminution of the cold feeling. *Feb.* 5. Still improving, cerumen now abundant. He continued his treatment till the sublimate was increased to about one-fourth gr. three times a-day; being followed by tenderness, with pain in abdomen, and slight soreness of gums, it was intermitted for a few days and again resumed. The last time Dr. B. saw him, he could hear with ease common conversation addressed to him, and in church could nearly follow the clergyman throughout the service and sermon. The wax has become so redundant as on two occasions to require removal.

Dr. STORER referred to a case reported by him some months since, of a woman at the hospital, who had severe cerebral symptoms which were relieved by mercury [see *Extracts*, pp. 199, 200].—Dr. S. stated that

she left the hospital some time after he reported her case, and was carried to Deer Island, where she remained for a considerable time, when all the bad symptoms returned which were manifested while she was at the hospital; and she died a week or two since. Upon *post-mortem* examination, the vessels of the brain were found very much congested; and the portion of the right frontal bone where the node had existed was thickened to a great extent. It has been ascertained that, years since, she suffered from syphilis.

May 10.—*Curvature of the Lower Extremities.*—Dr. J. B. S. JACKSON mentioned a case of this deformity, which he first saw three years since. The child was then very bandy-legged; some mechanical supports were worn for a while, but, being found cumbrous, were thrown aside. The limbs began to bend when the child began to walk, and the curvature was greatest at the age of two and a half to three years; both lower extremities bowed throughout. Yesterday Dr. J. again saw the child, and found the limbs *perfectly straight;* the child walking as well as any child.

Dr. HENRY J. BIGELOW said that he supposed nine cases out of ten got well of themselves. He alluded to Guérin's treatment of a certain case, a female patient, taken to him by Dr. B. No mechanical support was employed; invigorating means to the system in general; the seaside; frictions; continual use of a half and half mixture of claret and water. Cure.

Dr. COALE asked if it be not true that nature nearly always repairs such deformities? He referred to the deformity sometimes observed in infants, the head being distorted by continually nursing at one breast; the head recovers its shape again.

Dr. JACKSON said that the heads of adults are often unsymmetrical. The Germans, from a peculiarity in their tending, while children, get the occiput flattened. Dr. J. also spoke of a case of flattening of the occiput as a consequence of scrofulous disease in the cervical vertebræ, it being necessary to place the child constantly on its back.

In answer to a question from Dr. Jackson, as to the treatment of curved limbs, &c., Dr. BUCKMINSTER BROWN made the following remarks: In the cases referred to by Dr. Jackson (*genu extrorsum*), there is much weakness of the ligaments of the knee-joint, and the bones are likewise generally implicated. These cases will sometimes completely recover by merely strengthening the general system; but those more formidable cases, in which the curve is very marked, involving both the tibia and fibula, and commencing about three inches above the ankle, are probably never cured without surgical treatment. Dr. Brown mentioned an operation which he had seen performed in Paris, which consisted in straightening the limb instantaneously, by a process of gentle but forcible traction; producing, in certain cases, what may be termed a sub-fracture, or, as the French term it, "*fracture lamellaire interstitielle;*" in other cases, the softened bone is simply moulded into its proper shape, the hands of the operator being the only instrument employed.

The periosteum in either case is left uninjured. The limb afterwards receives appropriate support by splints, &c. This operation has been done under the authority of, and the cures authenticated by, a number of the most distinguished French surgeons. MM. Louis, Dubois, Blandin, Jobert, Rayer, Serres, and Orfila have given it their unqualified support.

Dr. B. said that this operation is applicable to certain cases only, and in these it offers a valuable addition to our means of removing this deformity. It is not followed by inflammation, constitutional irritation, or by any injury to the general health; and there is apparently less pain attendant upon it

than accompanies the division of a tendon, or any of the minor operations in surgery.

Dr. B. likewise stated that the apparatus which had been found most useful (in cases where no operation was admissible, or where, from the debility of the subject, or from any other cause, the surgeon does not feel authorized to run the risk of leaving the result to unassisted nature) consists of a steel spring applied to the concavity of the affected limb, taking for its points of support the internal malleolus and the internal condyle and tuberosity of the femur. Lateral straps extending from this spring grasp the convexity of the curve, and tend constantly to draw the growing bone towards the said spring, and to give that support which is here so strongly indicated.

This is a very efficient instrument, and its importance will be readily appreciated in the cases under consideration, if the disadvantages to which the feeble limbs are subjected be duly considered, the weight of the body causing the limbs to bend, and so an indefinite increase of the distortion becoming imminent. The hygienic treatment already mentioned, country air, wholesome food, and tonics, if deemed necessary, are important as auxiliaries.

Dr. BETHUNE asked, if recurrence of the curvature is likely to happen after the above mode of straightening and treatment?

Dr. Brown replied that the support is to be continued until the system seems sufficiently strong to warrant trusting to its powers alone. Recurrence is not likely.

Dr. INCHES spoke of the effect of bad diet, and of diet improper to the age of children; these are often the causes of this sort of deformity. After the above operation, a proper diet confirms the cure. Rachitis, remarked Dr. I., nearly always exists in these cases. He had observed curvature, of the nature above referred to, of the forearm, and it was treated in the manner mentioned by Dr. Brown.

Dr. W. E. TOWNSEND had seen, in a very healthy situation, near the White Mountains of New Hampshire, a family, *all* the children in which were unable to stand upright; the limbs were curved and rachitic; the bones breaking frequently. In this instance, which is a remarkable one, the state of the system could not have arisen from deprivation of light and air, mentioned as a cause by some members of the Society.

Hemorrhage from the Mouth and Anus in a newly-born Child.—Dr. COALE reported the case. The child, born on Friday last, was, to all appearance, well; the parents healthy. The day after birth, Dr. C. noticed some coagulated blood in its mouth. In the evening of the same day, it vomited much fresh blood, saturating two towels. R.—Acidi sulphurici aromatici; guttam unam. Repeat every two hours. Next day, appearances more favourable. The blood was voided by the mouth and by the anus. On the third day, the hemorrhage having ceased, there was substituted for the acid, sulphate of iron, in the dose of one-sixth of a grain, in solution, every three hours. This was continued for three days, gradually increasing the interval between the doses. The child, which Dr. C supposed could not recover, is now four weeks old, and quite hearty. Dr. C. remarked that he knew of no case where such an amount of bleeding, at such an age, had not proved fatal. The effect of the astringents employed was apparently very marked. The cord was not hastily tied in this case. Dr. C. mentioned this, because injurious results, from tying the funis before the cessation of pulsation, have lately been spoken of, by Dr. Storer, before the Society. The blood was supposed, by Dr. C., not to have come wholly from the stomach. When

thrown off, it was very fresh; and that passed from the bowels was but little changed. There was no bleeding from the cord.

Dr. JACKSON referred to a case of very extensive pulmonary apoplexy, recorded in the Catalogue of the Society's Cabinet; he thought it possible that, in this case, there might have been some such trouble.

Dr. COALE said there was nothing to indicate it, that he observed.

Rheumatism: Peculiarity in its Course.—Dr. C. E. WARE mentioned the case of a woman, fifty years of age, first seen by him, for the present attack, two weeks since. Symptoms—fever, chills, pain in left side. Physical signs—extensive dulness on percussion over cardiac region, souffle with the second sound of the heart. On the second day, the right hand became painful; cardiac symptoms abated; on the third day the left hand was attacked, and also the left knee; cardiac symptoms still more relieved. Two days since, severe pain came on in the right side; strong subcrepitant râle over the right lung, and at the base of the left lung; great dyspnœa; bronchial respiration at the base of the left lung; the rheumatic pain in the left hand and knee diminished. Yesterday, suddenly, rheumatic pain attacked the right wrist, the pulmonary symptoms subsiding. Condition the same to-day.

Typhlo-enteritis.—Dr. W. E. TOWNSEND related the case. The patient was a man, thirty-four years old, stout and fleshy, intemperate in eating, but perfectly temperate in drinking. He was attended by Dr. S. D. Townsend for the present illness, which came on with violent pain in the region of the cæcum, on Wednesday last. He took, of his own accord, pil. cochiæ, grs. xv, but there was increase of the pain. Dr. Townsend prescribed three grains of calomel, with some opium; in the afternoon he also took senna; there was continual, great increase of the pain; a small injection procured a slight discharge from the bowels. Next day he ejected from the mouth a fluid resembling senna in appearance. Nothing medicinal taken but sulphate of morphine. Death occurred on Sunday morning last.

Patient has had similar attacks about every six months, for the last four years; which generally were relieved by pil. cochiæ.

Post-mortem examination disclosed slight peritoneal inflammation around the cæcum; the appendix cæci greatly diseased, and a communication through the appendix into an abscess just external to the intestine. Intestine perfectly pervious.

Dr. JACKSON remarked that there was no foreign body in the appendix, in this case, as is usually found. He added that it is difficult to account for so great an amount of inflammation in the absence of a foreign body; the latter may be lost through the perforation in such cases, passing into the cavity of the abscess. In this instance, the appendix was obliterated near to the cæcum; up to the line of obliteration, it was quite healthy; where diseased, the parietes were greatly thickened, and gangrene seemed threatening. The abscess just external to the appendix is very nearly constant in these cases. Dr. J. added that it is a very curious fact that, the intestines being found so free from any obstruction, the symptoms of stoppage should be so very marked.

Dr. Townsend, Jr., said that the case had been supposed to be one of intussusception. He added that the fat on the linea alba measured from one and a half to two inches in thickness.

May 24.—*Encephaloid Disease of the Head and Face.*—An account of the case was read by Dr. PERRY. I. H., aged five years and seven months, hav-

ing previously had perfect health, and without any predisposition to malignant disease, was affected about the middle of December last with a swelling near the angle of the lower jaw, on the right side. When it was discovered, his parents supposed it arose from a carious tooth, and took him to a physician in the neighbourhood, who extracted the back molar tooth. The swelling, however, continued to increase; and on the 15th of February, two months after the commencement of the disease, Dr. P. saw him. He was looking rather pale, but otherwise seemed in good health; appetite good; bowels regular; pulse 80; respiratory functions normal; complained of no pain. The swelling at this time was perhaps half the size of a hen's egg, quite elastic to the touch, and not painful on pressure; subsequently, it continued constantly to increase in size, until it occupied the whole of the right cheek, pressing the soft parts into the mouth, separating the jaws, and at last preventing the child from taking anything but liquid food. About three weeks before his death, which took place on the 18th of this month, ulceration commenced on the inside of the cheek, which freely discharged a bloody, offensive fluid. Early in March, a swelling appeared under the left eye, and soon after, another came back of the left ear, and one near the angle of the lower jaw on the left side. The last two did not increase much in size, but the one under the eye pressed up the lower lid so as completely to close the eye.

The veins over the entire surface of each of these swellings were enlarged, but the skin was pale like the rest of the body. About the time the swelling commenced on the left side, the head began to assume an elongated appearance, and before death, the frontal and parietal bones were separated several lines. A few days before death, the measurement from the point of the tumour on the right side, to the occiput, was eleven and a half inches. Some weeks before his death he lost his sight, and partially his hearing. The other senses he retained to the last. Through the whole course of the disease, until within twenty-four hours of his death, when he became delirious, he retained his intellectual faculties, and all the functions went on well, except nutrition. He died anemic. He complained of no pain; his appetite was good; for the most part of the time he slept well; the bowels were regular; the urinary secretion healthy and abundant. He was seen by Drs. Warren, Bigelow, Storer, Jackson, and Clarke.

The *post-mortem* examination was made by Dr. J. B. S. Jackson, who stated the following appearances to the Society:—

The head was first examined. Dr. J. compared the diseased mass to blood recently effused and coagulated; in some portions, fibrin was observed. The mass extended above the zygoma; the same disease existed in the dura mater; over the vertex, the membrane, for a space of two inches, was lost in the diseased mass; the inner walls of the cranial bones were eroded in spots; the frontal bone was separated from the parietals and from the sphenoid. On the left side there was a sanguineous tumour of the dura mater. The brain was healthy; also the other organs, except the kidneys, which were extensively and deeply ecchymosed. One of the kidneys was exhibited by Dr. Jackson, and a drawing of one of them by Dr. Perry. Also drawings of the child's head and face, both front and profile view, were shown by Dr. P.

Dr. Henry J. Bigelow thought the principal points seemed to be the absence of white tissue in the diseased mass; the lack of appearances peculiar to encephaloid; also, the lesion of the kidney was not mere ecchymosis, there was actual disease; the coagulum-like matter was more cellular than bloody; what light-coloured material existed was slightly fibroid, but chiefly cellular;

the cells had much the appearance of pus-cells. Dr. B. showed drawings of the cells; he added that the constitutional character of the disease was sufficient to establish its cancerous nature.

Dr. BACON remarked that the portion of the diseased mass examined by him was so injured by decomposition, that he could not be positive as to the nature of the cells; he, however, supposed them to be cancerous.

June 14.—*Fatal Hemorrhage from the Funis.*—Dr. STORER reported the case. Dr. S. was called, May 23, at 10 P. M., to Mrs. T——, in labour with her fourth child. In an hour she was delivered of a fine, large, healthy-looking child, weighing about eight pounds. The funis was tied with a piece of narrow bobbin. After seeing the swathe applied and the patient comfortable, Dr. S. left her. At about five the next morning he was called to see the child, which was bleeding from the funis; found it pallid, cold, the pulse scarcely perceptible. Efforts were made to revive it, but it died in a few minutes after Dr. S. reached the house. The ligature applied just after birth was still upon the funis, and at the extremity of the funis was a coagulum. The greater portion of the funis was of a bright arterial colour.

After the birth of the child, Dr. S. waited, as is his custom, for the pulsations of the cord to cease, and then applied the ligature with the usual force, examining to see if the bleeding was stopped; and again, after the expiration of fifteen or twenty minutes, after the mother had been swathed, he looked, as he invariably does before leaving the chamber, at the funis. It did not bleed. It appears, from the remarks of the nurse, that the child was applied to the breast in about one hour after Dr. S. left. No bleeding was then noticed, and the child readily took the nipple. Between four and five in the morning, four or five hours after birth, its clothes were found saturated with blood, and Dr. S. was sent for. That the ligature was applied with as much care as is usually taken, Dr. S. is certain. The fact of there being no bleeding at the end of nearly half an hour after the funis had been tied shows this to have been the case. The bleeding seemed to be produced by the gradual contraction of the parietes of the funis, by which the ligature became loosened.

Does not the result of this case prove that it is well in *all cases* to wait until the pulsation ceases in the funis, before applying the ligature? This was done here, and the case was fatal. Would not this accident be more likely to occur if this caution were not observed? Dr. Storer added that he remembered hearing one of our oldest practitioners relate a case to this Society, in which the ligature having been applied, the funis was severed next the child, *within the ligature*, no bad consequences ensuing. The absurdity of such a practice ever being justifiable is strikingly shown by the case above recorded.

The child was examined, *post-mortem*, by Dr. Jackson, who found nothing abnormal.

Dr. TOWNSEND, Jun., reported a case in which the bleeding, which occurred a few hours after birth, and which was quite profuse, ceased spontaneously.

Dr. JACKSON supposed the bleeding, in the case narrated by Dr. Storer, to have been from the umbilical vein, as this vessel was found open while the arteries were shrunk.

Puerperal Convulsions; Premature Labour.—Dr. STORER reported the case. May 27, visited Mrs. H., at the request of her physician. Saw her at 5 P. M. She was, at that moment, struggling with an epileptic convulsion, which lasted about three minutes. She had had, since one o'clock in the morning, twenty-eight similar attacks. Upon examining the case, Dr.

S. found she was twenty years of age, and this was her first pregnancy. She expected in a week or two to have terminated her time. The attending physician had bled her, and made cold applications to the head without relief. She had had slight pains, and upon examining the os uteri it was found to be sufficiently open to reach, with an effort, the unbroken bag of waters. Dr. S. advised puncturing the membranes, which was readily accomplished. After the waters had passed off, and the pressure was partially removed, the convulsions were less severe; and, for an hour previous to her delivery, none occurred. At 8 o'clock, about three hours after, her child was thrown off, still. She soon became comatose and died.

Bleeding and the anæsthetics have so often failed of success in puerperal convulsions, that Dr. S. was induced (recalling a case of this kind occurring in his own practice two or three years since) to suggest the above course of treatment, and he cannot refrain from thinking that, had it been adopted earlier, the result might have been different.

Abnormal Presentation of the Fœtus.—Dr. STORER reported the case. The presenting parts were the two hands, and between them the right foot. The patient lived out of town; had had five children; at each accouchement, she had been attended by a midwife; her labours had been natural. Dr. S. was called to see her at 10 o'clock P. M., on the 29th of May. She had been in labour since the morning of the day preceding. Two midwives were in attendance; one had been with the patient since the commencement of the labour, the other during the second day. On Dr. Storer's arrival, he found the patient not much exhausted nor depressed in spirits; on examination, Dr. S. discovered that the mouth of the uterus would allow two fingers to pass readily, and a third when the three were drawn together with some effort. After some difficulty, Dr. S. made out the presentation of the hands and one foot in conjunction; he had never before met with such a case. The contractions of the uterus were strong, rendering the examination difficult and tedious. A loop of the funis hung from the vagina, having presented, according to the attendants, since the passage of the waters, more than thirty-six hours previously. The child was dead; how should it be delivered? The head could not be reached by the forceps or crotchet; an arm might be drawn down, and the case left to the chance of spontaneous evolution; or, when down, the arm might be amputated and the fœtus eviscerated. Dr. S., however, preferred to turn and deliver by the feet; accordingly, by the aid of ether having effected some relaxation of the uterus, he commenced his operations. The right foot, compressed between the two hands, presented at the brim with the toes towards the abdomen of the mother. Finding it impossible to bring down the presenting foot, from its being so firmly wedged between the two other members, Dr. S., after a long trial, succeeded in pushing aside a hand and then the arm, which gave opportunity to search for the other foot; this being found, after long-continued effort, high up in the pelvis, on the left side of the uterus, was brought down; and, while in process of descending, the child rotated and both feet presented at the vulva, with the toes towards the pubis of the mother. After the birth of the body, the head was readily disengaged by raising the abdomen of the child upwards towards that of the mother, causing the occiput to travel over the sacrum. While endeavouring to bring down the second leg, the presenting foot was kept in place by a fillet over the ankle. The whole operation occupied a little more than an hour; in half an hour after removing the child, the patient was left comfortable.

In relation to this case, Dr. S. remarked that, had the child been living, it

would have been proper to have brought down, if practicable, but one foot; the superior bulk of the breech and thigh acting much better than a single limb in effecting dilatation of the parts, and in thus facilitating the progress of the head. Dr. S., while mentioning never having seen such a case, stated that none similar to it had been noted by Dr. Lee, in over one hundred cases of preternatural labour; although a case is mentioned by Madame Boivin, in which all the four extremities presented; and he intimated that such a presentation might possibly have been produced by some other power than that of nature.

Dr. STORER also related the following case of *Placenta Prævia; Death from Exhaustion.*—On the 26th of May, at 6 P.M., he was called to see the patient in consultation. The attending physician had been summoned several hours previously on account of a sudden hemorrhage, which occurred while the patient was sitting upon a cabinet. Cold was applied, and the vagina was plugged; blood still flowed in small quantity, till the patient became enfeebled, and it was estimated that about one gallon of blood had been lost. Dr. S. was now called, and advised, as the placenta was found to cover the os uteri, its immediate detachment. This was effected, and the hemorrhage ceased. Dr. S. advised, additionally, that the patient be watched, and that no attempt be made to deliver; he was called again at 4 o'clock the next morning: the head had now descended into the pelvis, but the expulsive efforts were feeble, and the child was delivered by the forceps. The patient remained comfortable for two or three days, when she began to sink, and died on the eighth day after delivery. Dr. S. was of opinion that, as nothing could have been done in the outset to hasten delivery, from the unrelaxed state of the os uteri, death was, probably, delayed by the non-interference.

Hemorrhage from the Funis on the Second and Third Days after Birth.—Dr. SNOW related the case: He was sent for on the second day after birth, some hemorrhage having occurred, and he then applied a new ligature, supposing the bleeding to be from the cut end of the cord. He was again summoned the following night, the hemorrhage still continuing; a third ligature was applied. On the next day, the child appeared to be dying; and, on removing all the cloths, the blood was found to proceed from around the base of the cord. The nurse had removed the dressing from the funis on the day after birth, which Dr. S. thought might have caused the accident.

In reply to a question by Dr. Minot, Dr. Snow remarked that there was no yellowness of complexion, nor anything peculiar in the external appearance of the child, which died on the fourth day.

Occasional Effects of the Local External Application of Medicinal Agents.—Dr. BETHUNE reported three cases in which these effects were quite marked. The first was one in which atropine was the remedy used; its strength, grs. ij to ʒj of alcohol. This was twice applied to the eyes of an old gentleman; it caused pain in the part, and, subsequently, delirium, which was so violent that the patient threw himself out of bed, bruising his face. The second instance was a case in which the same preparation was employed on a child seven or eight years old; its effect being to produce sleep which continued for thirty-six hours. The third was that of a physician, Dr. B. prescribed the application of croton oil, together with the ammonia liniment, in the proportion of ʒj of the former to ℥j of the latter, for some trouble in the ear; it was directed to be applied over and about the mastoid process;

about half a teaspoonful of the preparation was rubbed in at a time, producing, after the first application, two or three discharges from the bowels.

Dr. ABBOT reported a case of very free application of croton oil. A gentleman having mistaken a bottle of this substance for hair oil, anointed his head quite thoroughly with it, rubbing it in. In a short time, the whole face became extremely red, the eyes were also red and painful, causing much distress; each hair-bulb seemed inflamed; relief was afforded by an opiate; about a teaspoonful of the oil was applied; the bowels were not affected.

Dr. STEDMAN remarked that he had ordered the application of this article as a counter-irritant to different parts of the body, particularly the chest and abdomen, in numerous instances, without fearing or having met with its effects on the bowels.

Dr. BETHUNE said he had never remarked such effects before, although he had used the croton oil in several hundred cases.

Dr. SNOW mentioned a case wherein the patient, having been directed to apply the oil for pains in the chest, *anointed the entire chest* with it. Much inflammation of the skin followed, causing great agony; but there was no cathartic effect.

At the meeting next succeeding the above (June 28), Dr. STORER related the case of a patient who, having applied croton oil to the epigastrium, experienced very powerful catharsis therefrom.

Dr. JACKSON mentioned an instance where fourteen drops, applied to the chest for pulmonary trouble, caused a plentiful eruption without any cathartic action.

Dr. PUTNAM alluded to a case in which its application was not followed by catharsis.

[The cases in which catharsis immediately succeeds the application of croton oil to the skin by friction are, of course, acknowledged exceptions, and, as such, the more worthy of record wherever the effect can reasonably be predicated of the cause. Wood and Bache, referring to the *Dictionnaire des Drogues*, state its *dictum*, that "four drops, applied by friction around the umbilicus, will produce a purgative effect." It would seem far more likely that such effects should be caused by the application of the substance to the epigastric and abdominal regions than when it is used upon other parts more remote from the intestinal canal. Andral, in his experiments made at La Pitié, in 1831 and 1832, and afterwards reported by Joret, found no cathartic effect strictly traceable to the oil, applied by friction; in six cases where friction over the abdomen was made with a mixture of the croton oil with that of sweet almonds, there was no purgative action. Among nine cases in which the *pure* croton oil was used, a single patient was purged; twenty drops were often used. Andral concluded that, very probably, the purgation observed in the single instance mentioned was owing to some inappreciable cause (*Vide* Trousseau et Pidoux, *Traité de Thérapeutique*, etc., tome i. pp. 685, 686). Rayer states that he procured numerous alvine evacuations by the application of one or two drops of the oil upon a surface denuded of cuticle by a blister.—*Secretary.*]

Microscopic Anatomy of the Fœtus.—Dr. DURKEE exhibited some beautifully prepared specimens from the fœtal subject, arranged by himself with great care and skill for the microscope, and showing the villi and mucous follicles of the stomach and small intestines; the appendix vermiformis; mucous surface of the trachea and œsophagus; sections of the kidney, showing the stellate distribution of the bloodvessels upon the surface, and the

veins distributed in sets in the tubular portion; sections of the thyroid, thymus, and mesenteric glands; the pancreas and lungs; also a portion of the choroid coat having the venæ vorticosæ and pigment-cells injected, and being distinctly shown both by transmitted and reflected light. Dr. D. likewise showed some specimens of the skin from an adult subject, wherein the looplike arrangement of the capillaries which are sent to the papillæ was very manifest; this is to be seen to good advantage in the palm of the hand and under the nails.

Dr. JACKSON stated that the fœtus from which the above specimens were obtained was taken from a woman aged forty-two years, after her death, and who was supposed to have died of an abdominal tumour. The real cause of her death was not, however, disclosed by a *post-mortem* examination. She had been in labour two days, unknown to the family, when she was attacked by convulsions at 10 o'clock in the evening, and died next day at 5 o'clock A.M. The probable cause of death was effusion into the brain.

Dr. J. showed the ossicula of the fœtal ear, consisting of three bones, the incus and orbiculare being united and forming one, as is usually the case, *except in the fœtus*, where, it is said, these two bones are detached. Dr. J., however, had seen one case previously, where, in the fœtal state, these bones were united.

June 28.—*Ventral Hysterocele.*—Dr. STORER reported the case. June 2. Three weeks since, Dr. S. visited Mrs. W——, Pleasant Street, who expected to be confined in a few weeks. Upon inquiry being made, it was ascertained that the present is her third pregnancy. The *first* labour was tedious, and her child was stillborn. In her *second* pregnancy, she was delivered at the eighth month, and her child had been dead sufficiently long to have become offensive to the bystanders. Since her last delivery, which occurred about a year since, her health had been poor. She is now quite languid, pallid, evidently much depressed; thinks she never can have a living child.

Upon examining her abdomen, Dr. S. noticed a very singular condition of the recti muscles, which were separated so extensively from each other that there existed a peculiar sacculated appearance of the abdomen, which was strikingly marked upon any forward motion being made by the patient. This separation was observed along the whole extent of the linea alba. The projection between the recti muscles resembled that produced oftentimes by an enlarged ovary; and the feeling transmitted by examining the hernia was similar to that of an exaggerated fontanelle, and beneath the finger the number of the several extremities of the fœtus could be defined as clearly as if a rupture of the uterus existed.

The fœtal heart was feebly pulsating. At the expiration of a week, Dr. S. again saw the patient. She was exceedingly depressed, and remarked that she had not felt the motion of the child since Dr. S. examined her. Upon a repetition of the examination, no fœtal pulsation could be heard, and it was concluded that the child must be dead. Dr. Putnam, to whom Dr. S. had spoken of this, to him singular abdominal hernia, saw her a day or two afterwards.

Now, June 2, patient is in labour. During each uterine contraction, the organ was thrust between the recti muscles with great force; and, fearing that serious results might follow, Dr. S. applied a broad swathe around the abdomen. The labour continued only about two hours, and the patient did not suffer unusually. The child was *still*, and exhibited large patches upon its surface, where the cuticle was entirely denuded. The condition of the *placenta*, which

was quite small, indurated throughout, and exhibiting upon its fœtal surface two large cysts, each of the size of a chestnut, filled with coagula, readily accounted for the death.

Patient does not remember that any similar condition of the abdomen existed in either of her former pregnancies; nor does she seem to have experienced any decided inconvenience during this *last* pregnancy, except during any forward motion. The mere stooping forward to wash the cups after a meal produced so much uneasiness that she had been obliged to desist from the operation for weeks previous to her delivery. She cannot recall any violent exertion by which the separation of the linea alba could have been induced.

Dr. S. added that, from never having previously met with a case of ventral hysterocele, and from the fact that those writers who refer to the subject point to individual cases which have been published, he inferred its rare occurrence.

Recovery from Ascites after Tapping.—Dr. HAYWARD, Sen., reported the case. The patient was an intemperate man, whom Dr. H. saw for the first time in November last. He was then suffering from ascites. The existence of some organic disease was at that time supposed by Dr. H. The patient was tapped in December; sixteen quarts of serous fluid were evacuated. Five weeks subsequently, eighteen quarts were taken from him. The operation was again performed, four or five weeks afterwards, in March, when twenty quarts were drawn off. Since that time, there has been no return of the affection, and Dr. H. is unable to detect any organic disease. Dr. Hayward remarked that this is the third case of recovery from ascitic affection after tapping, that has occurred in his own practice. In one of these cases, the patient had been under treatment for dyspepsia. On tapping her abdomen, a small quantity only of fluid was drawn off, but the affection did not recur. In the second case, twenty-two quarts of serous fluid were drawn off; no effusion followed. The patient recovered entirely, and, in the course of two or three years, gave birth to a healthy child. Both mother and child are still living.

Dr. PERRY mentioned two cases of recovery from this disease after tapping. In one, the patient was cured by hydriodate of potash, with compression, having been previously tapped three times. The other case was of a patient tapped three or four times by Dr. Bartlett, of Roxbury, and who afterwards recovered. Dr. Perry added that these two were, not improbably, cases of subacute peritonitis.

Early Menstruation.—Dr. PERRY related an instance of menstruation occurring in a child four or five years of age; the child to all appearance healthy, although Dr. P. supposed her to be scrofulous. The tonsils were slightly enlarged, and she had once had inflammation of the eyes. She had menstruated five times at the regular intervals. Dr. P. recommended no treatment, but advised country air.

In answer to a query by Dr. JACKSON, Dr. PERRY stated that the mammæ were somewhat developed, but nothing peculiar was remarked about the pubes. The secretion had the usual appearance of the menstrual discharge, and continued for two or three days.

Remedy for the Nausea and Vomiting of Pregnancy.—Dr. GOULD spoke of the application of chloroform to the epigastrium as having been found to afford prompt and permanent relief in four cases of the above affection. A few drops, only, were applied at a time.

Dr. BIGELOW was of opinion that chloroform acted as a counter-irritant. He mentioned the case of a patient in whom vesication was produced by a few applications of this substance for pain in the side. It had not always been found to relieve pain. Dr. B. had tried the chloroform ointment, spoken of at a recent meeting by Dr. Channing, in various forms of neuralgia, and, in a few cases, had obtained temporary relief; in no instance was the relief permanent. Dr. B. doubted the alleged anodyne properties of chloroform, when applied to the skin, as it cannot act through the cuticle.

Dr. STORER remarked that, although nausea and sickness in pregnancy may be temporarily relieved by this application, he was in doubt as to its affording permanent relief, the affection being of a sympathetic nature. He considered the cases reported as possibly exceptional.

Dr. COALE related a case in which the sickness came on when the patient rose from the horizontal posture. In this instance, chloroform afforded immediate relief, lasting three to four hours, when it became necessary to renew the application.

[At the next subsequent meeting of the Society,

Dr. ALLEY reported a case of morning sickness in a patient seven months advanced in pregnancy. Relief was obtained by the external application of chloroform to the epigastrium. The remedy was applied four or five times in the day, for two successive days, with entire relief to the patient, producing little or no irritation upon the skin, a slight redness only being perceptible.

In answer to Dr. STORER's inquiry whether the relief were permanent, Dr. A. replied that four days had now elapsed since the disappearance of the symptom. No other counter-irritant remedy was employed.

Dr. SNOW asked Dr. STORER if he had employed, successfully, any other counter-irritant remedies in this affection.

Dr. STORER had tried the usual remedies of that class, but without expecting, or having found, permanent relief from them. He had frequently seen temporary relief follow the employment of blisters, &c.]

Arsenic in Remittent Fever.—Dr. C. E. WARE related a case of the above disease, occurring in a lady who had resided for three years at the West, where she had, three years since, what was called bilious remittent fever. Dr. W. at first considered it a case of typhoid fever. On the fourth day, however, the disease assumed the character of remittent fever, and there was yellowness of the skin, with some tenderness of the hepatic region; no diarrhœa; a peculiar chill and reaction occurred every second day; the chill lasting for half an hour, and the febrile reaction for four or five hours. Dr. Jackson saw the patient on the tenth day, and suggested arsenic, in the dose of six drops of Fowler's solution three times a day. The first attack, after commencing this remedy, took place on the subsequent day, and was quite severe. Twelve drops were now given every five hours. The patient suffered no farther attacks, and became at once convalescent.

Accidental Salivation.—Dr. COALE mentioned a case of this affection, in which periodical exacerbations took place twice in the twenty-four hours; viz., at one in the morning, and at the same hour in the afternoon. Quinine was given with success. The patient had not had intermittent fever, but had suffered from fever in the East.

Dr. DURKEE stated that, in the above case, which had been sent to him by Dr. Coale, the occurrence of salivation was from the application of an ointment made of ℥v of white precipitate to ℥iij of lard. This was applied pretty

freely to the throat and lower part of the face, which parts were the seat of psoriasis guttata, and salivation followed on the fifth day. This was the first case of salivation produced by this remedy that had fallen under Dr. D.'s notice.

Dr. COALE mentioned another case of salivation produced by the application of the "black wash" to the throat.

July 12.—*Almost Complete Occlusion of the Vagina.* Reported by Dr. HAYWARD, Sen.—Dr. H. stated that he had recently operated in a case of this nature. The patient had always menstruated regularly, but with pain. She had no suspicion of her condition until marriage, which took place about a year since, when sexual connection was found impracticable. On examination, a septum was found at some considerable distance from the external orifice, with an opening in it so small as only to admit, and that with difficulty, a small probe. A director was afterwards introduced, and then an attempt was made to carry in a bistoury, which was finally successful. A catheter was now passed into the urethra, and the septum incised in all directions, except towards the bladder. After this, Dr. H. was enabled to introduce the finger, and to pass it completely around the os tincæ. This is the fifth case of occlusion of the vagina that has occurred in his own practice. Two of these were cases of imperforate hymen. The third was a case of congenital malformation of the vagina successfully treated by an operation. Another was one of occlusion produced by sloughing after instrumental labour. This last was also relieved by an operation, the patient having since had a living child. In the case above reported, the septum was unusually firm, cutting like tendon. On examination, six weeks after the operation, it was found that it had afforded complete relief.

Unusual quantity of Liquor Amnii; the Placenta and Fœtus both healthy in Appearance.—Reported by Dr. STORER. The patient was in her third pregnancy. When in her first, she was enormously large, and was delivered of a dead child in the sixth month; the amniotic fluid being in great abundance. In her second pregnancy, the abdomen was also greatly distended, and the labour came on in the eighth month; the child dead, as before. In the present case, labour occurred at the eighth month; there was great distension of the abdomen, and the child, as in the two former instances, was stillborn. A peculiarity of this case was the healthy appearance of the child and of the placenta, in each instance; a condition not usual in cases where the liquor amnii is in excess.

Early Menstruation.—Dr. MINOT reported the case of a woman, twenty-three years of age, who had recently consulted him for headache, having been bled one year before for the same trouble. This patient was run over by a wagon, when nine years old, since which she has menstruated regularly, the function being always attended with much pain.

Obstinate Diarrhœa preceding and following Labour.—The case was related by Dr. STORER. The patient was first seen by Dr. S. ten days ago. She had had diarrhœa for a fortnight, and expected to be confined in one month. On the second day after his visit, she was taken with pains resembling those of labour, and at the end of the second day labour came on; it being the eighth month of her pregnancy. On the following day she had nine discharges from the bowels. Lead, opium, and catechu were given

without effect. Finally, sulphate of copper, in the dose of one-sixth of a grain, combined with ten or twelve drops of laudanum, was administered. Dr. S. feared a fatal result. The patient has, however, been improving for two days past, having had but three discharges during the last twenty-four hours.

26*th*. Dr. Storer reported his patient entirely recovered.

Deafness produced by Quinine.—The case was reported by Dr. HAYWARD, Sen. Twelve grains of the sulphate of quinine were administered, in the course of twenty-four hours, to a patient who had been afflicted with rheumatism. In forty-eight hours after commencing its exhibition, he complained of deafness. There was no dizziness. On the second day after, the deafness was nearly complete. No tinnitus aurium. In twelve hours after having abandoned the use of the medicine, hearing was entirely restored. Dr. H. said he had frequently given quinine in much larger doses, *e. g.*, two scruples and one drachm in the course of one day; but had never before noticed the above effect. The quinine, in this case, was given combined with gentian. There were no other symptoms.

July 26.—*Microscopic Anatomy of the Fœtus.*—Dr. DURKEE exhibited several preparations from a fœtal subject, about five or six months old, which weighed only twenty-six ounces, and which he had injected with coloured size. The bloodvessels of both crystalline lenses were injected, and their branches could be seen radiating from a comparatively large trunk, and traversing the lens in every direction, until they were lost near its periphery. In mounting these two specimens, the epithelium between the lens and its capsule had not been disturbed, but could be seen apparently in its normal condition. The membrana pupillaris was exhibited, showing the beautiful arrangement of its fibres, and the ciliary arteries with their branches and anastomosing extremities injected.

The pupillary membrane, examined *in situ*, through the cornea, appeared to be about the sixth of an inch across from point to point of its border, and to consist of an entire web of fibres; but, upon removing it, and placing it on a glass slide, a narrow aperture or slit, as if made with the point of a lancet, cutting through its central portion, could be seen by the naked eye, and was about a line in length. In looking at the membrane through the microscope, an arterial branch, which has been injected, may be seen running parallel to each lip of the central opening just mentioned, and sending off at right angles several exceedingly minute twigs, which also divide and subdivide until they finally inosculate and form a chain of loops, and thus the central aperture appears to be made. A somewhat similar inosculation of bloodvessels is seen in the border of the sclerotica at its junction with the cornea, and also in that part of the choroid membrane surrounding the optic nerve as it penetrates the sclerotic coat in the back part of the eye. In the two latter instances, however, the openings are circular, while that in the pupillary membrane is a mere slit.

Judging from the specimens now exhibited, it would seem that the pupillary membrane must be formed antecedent to the formation of the iris, as scarcely a rudiment of the latter can be found—and how it can be said that the former arises from the latter, it is difficult to understand; yet Todd and Bowman seem to be of that opinion.

Dr. D. also exhibited several teeth taken from the same subject. They were extremely small—some of them not so large as a common flaxseed—

and they consisted of mere pulp; yet their cell-structure could be seen, and the nutrient bloodvessels were perfectly injected, so that the microscope brought them distinctly into view. A large number of hairs, with their related follicles and glands, removed from the eyelids of the same fœtus, were also examined by the gentlemen present.

Puerperal Convulsions. Death of Patient, undelivered.—Dr. STORER was called in consultation with another practitioner, at 10¼ P. M., July 19, to a patient in puerperal convulsions. She was attacked at six in the morning, and had had repetitions of the attacks during the entire day, at longer or shorter intervals; generally, about an half hour intervening between them. She had been bled at 2 P. M. and at 6 P. M., about twenty ounces each time, but still her convulsions continued.

The patient, a woman about twenty years of age, and at her full period of pregnancy, had the aspect of approaching dissolution. She was perfectly unconscious; the surface of her body was cold and damp; the pulse exceedingly feeble. While examining her, she had a terrific convulsion.

Upon examination, Dr. S. found the os uteri slightly open, just allowing the index finger to pass, and to ascertain that a head presented. He advised that premature labour be attempted; there appeared but little chance that it could be accomplished, but no other alternative presented. The membranes were readily ruptured. Prevented by unavoidable professional engagements from remaining with the woman, Dr. S. requested the attending physician to watch her through the night, and, should she die, as it appeared most probable she would, undelivered, to open the abdomen immediately, and remove the fœtus.

Dr. S. was informed the next morning, by the gentleman in attendance, that the convulsions continued to recur about every twenty minutes, until a little past 12 o'clock, when she died, a few minutes after the cessation of a paroxysm.

Dr. —— immediately opened the abdomen of his patient, and removed a child, with its extremities so contracted and rigid as to be straightened only by the application of considerable force; and with its surface livid throughout. Examining again, he removed a second fœtus, less rigid than the former.

Dr. S. stated that, in this case, as in that reported by him on the evening of June 14th, he supposed the child would probably be dead, inasmuch as the convulsions had existed so long a period previous to an attempt being made to produce delivery; but he requested that the abdomen of the woman might be opened as soon as she ceased to breathe, as the *living fœtus has been extracted* after the death of the convulsed mother.

Speaking of the treatment of puerperal convulsions, Colombat observes (Amer. ed., p. 646): "Should the mother have breathed her last during the progress of the labour, the Cæsarian operation ought to be performed, notwithstanding the slight chance of success in such an attempt to rescue the life of the child."

Art. VI.—*On the Efficacy of Belladonna as a Remedy in Pertussis.*

By Hiram Corson, M. D., of Montgomery County, Pa.

I had been engaged in practice six years, when the Essay of Dr. Jackson, of Northumberland, "On the Efficacy of Belladonna in Hooping-cough," was published in the *American Journal of the Medical Sciences* (August No., 1834). My experience in pertussis had satisfied me that all the remedies in common use—those recommended by writers upon the diseases of children—were almost useless. Children affected in the winter, continued to cough, and strangle, and suffer, for many weeks, with scarcely a perceptible amendment; and even when convalescence did commence, a long time elapsed before complete recovery. It was painful to visit, and mortifying to prescribe for, those afflicted with this malady; and so apparent was our inefficiency, that many families did not seek the aid of a physician at all; and, if urged by their friends or neighbours to do so, justified themselves by saying that "everybody knows the doctors can do nothing for hooping-cough; it will have its time." I had arrived at nearly the same conclusion previous to the publication of Dr. Jackson referred to.

In the winter of 1844–5, hooping-cough prevailed in the region a few miles above Norristown. It had not visited that neighbourhood for many years previously, so that nearly all the children at the schools were liable to the disease; and, with few exceptions, they became affected, so that the schools were nearly broken up. My brother had four little boys severely affected, and, as I was desirous to try Dr. Jackson's remedy, I read his essay to my brother, and urged the use of the belladonna. They were strong, healthy little boys, and had the disease severely. I do not now recollect the dose that we used, but they were put fairly under the influence of the medicine, every day, by repeating the dose every three hours. In one week they were all well, and returned to school, while the children of many of the neighbours suffered with the cough for several weeks afterwards.

These cases occurred a few miles beyond the limits of my practice, and I saw no more of the disease until it occurred in our own region in the following year.

January 14, 1836, Mr. S. called upon me to visit his son, two years old. He said the child had been labouring under hooping-cough for several weeks, and he did not think it could live more than a few days, for it was coughing up *matter;* but he thought he had better come for me, lest the people would make a fuss about his not getting a doctor. I told him of the new remedy; he agreed to its use; we gave it for one week, when the child was perfectly cured of the cough, though he remained weak for a short time.

A brother-in-law of Mr. S., who resided many miles distant, having heard of the cure in the above case, came to me for some of the medicine for his

child, who, he said, "had the hooping-cough so badly that they thought it would strangle to death every night." From the little experience that I had had with the remedy, it seemed to me that the dose recommended by Dr. Jackson, viz., one grain to a child two years old, was too large. I therefore concluded to begin with children, under one year, with the sixteenth or one-eighth of a grain, every two hours, and to increase a little every day until the proper dose was reached. With this view, I put eight grains of extract of belladonna into one ounce of water. Nine drops of this solution contained just one-eighth of a grain of the extract. Of this I directed him to give his child nine drops every two hours until the pupils were dilated, face flushed, mouth dry, and vision confused. If these effects were not produced the first day, then to increase the dose three drops daily. I was informed that the child was entirely cured in a week.

From this time it was used in all the cases that presented, and in every instance in which it was properly administered the cure was speedy.

In 1840, the disease prevailed over my district, and I used the belladonna in hundreds of cases, with great relief in nearly all. There were some cases, however, in which I saw no good produced; in these, the medicine did not seem to produce any effect. It is probable that the fears of the parents did not allow them to use the remedy properly. The parents were always informed of the nature of the medicine, its mode of action, and the change effected upon the pupil of the eye. Some became much alarmed, and strange stories were circulated, that I used "a medicine that was a poison, and swelled the eyes." But the relief obtained by those who used it was so great, the cures so rapid, and the medicine so pleasant to take, that one after another came to try it, until it became the only thing thought worth using.

I was not alone at this time in its use. Dr. George Thomas and Dr. Wm. Corson, of Norristown, also prescribed it.

In order that the fears of our patients should be allayed, we always desired that the first few doses should be so small as to produce no marked effect, and thus, the child not getting so quickly under its influence, the cure was somewhat retarded, but generally occurred within two weeks; when, judging from some cases which afterwards occurred, I doubt not they might have been produced in less than one week.

I will mention a few cases which were quite remarkable, and certainly should aid us in forming a judgment of the nature of this disease. I take the following cases from my note-book:—

A girl, six years old, has had the cough three weeks; paroxysms recur, the parents think, about forty times in twenty-four hours, and are very violent. Ordered one-fourth grain of the extract of belladonna every two hours, until the characteristic symptoms are produced. In about fifteen minutes, the face was much flushed, there was ringing in the ears, and croupy sound in breathing. After those symptoms passed off, a like dose was given; the same symptoms, but milder in degree; medicine repeated whenever the influence had nearly passed off. On the fifth day there was not a trace of the disease left.

This child had always been liable to croup, and had suffered some violent attacks.

Another child of the same family, a little boy, two years old, had been left until the disease had continued two weeks, and had acquired the real whoop. He had to be caught up many times through the night, for fear he would suffocate. Began by directing for him one-sixth of a grain every two hours. In a few minutes after the first dose was taken, the face became much flushed, pupils dilated, and symptoms of croup followed of such severity that I was sent for in much haste. It was 9 A. M. The case seemed just like one of spasmodic croup. I administered hive syrup, vomited him freely, with much relief, and before next morning the croupy sound had disappeared; there were but five coughing spells through the night. Next morning another dose was given; the croupy symptoms were produced, but not so severely. The flush of face, enlargement of pupils, and croupy sound, passed off before bed-time, and there was no cough worthy of notice through the night. A third dose was given, and from this time no one could have told that the child had ever had hooping-cough.

Those cases occurred in June, 1840, and never before had I seen such prompt effects from the medicine.

In August of the same year, called to C. W.'s son, aged nine months. Has had the disease two weeks. The mother thinks he coughs every fifteen minutes night and day. Ordered nine drops of the solution every three hours; increase three drops daily. In one week the cough had diminished to about four or six times in twenty-four; from being sick, restless, and moaning, it is now well and lively.

J. W.'s child, aged one year, coughs badly, the mother says, "from noon until next morning; takes no suck, and notices nothing scarcely." This child took the medicine, but had so much difficulty of respiration, from the secretion into the bronchial tubes, that we gave ipecacuanha every day to clear the passages. In three weeks, it was perfectly well.

August 21. A boy, aged two and a half years. The mother told me an older child had taken the disease in April, that it was still coughing much, and its health was much broken; that she had been so worried with it during so long a time, being much disturbed at night, that she thought if this one was to go through a similar course she could not stand it. And added, "that *this* child, who has now had it six weeks, is now *worse* than the other ever was." At 10 A. M., I directed nine drops ($\frac{1}{8}$th gr.); in a few minutes, the face flushed, the child seemed much excited, and, after a short time, fell into a profound sleep, which somewhat alarmed the mother. He continued to sleep with little interruption until next morning; but during all this time, to our utter astonishment, he never once coughed. Next day we gave him seven drops; effects not so severe. Third day gave six drops; from this time he was perfectly well.

Sept. 1. G. R.'s child, aged *two months.* The mother says: "Has had the disease badly three weeks, coughing and strangling by night and day; it can't live without some help soon, and I am determined to try the medicine." Began with one drop every three hours; increased one drop every day until it took five at a dose. By this time it was almost well. Had no more trouble with it.

Sept. 1. J. A.'s child, aged four months, very bad with cough. Gave four drops every three hours; increase one drop every day if necessary. In four days, comparatively well.

Oct. 4. J. T.'s child, aged three months, female, coughs and whoops badly. Ordered five drops every three hours; first dose given while I was present. I immediately left for home. In about fifteen minutes after I reached it, a messenger arrived in great haste, and said the child had fits. I returned, and found it partially recovered from what they described as "a fit or strange spell; it seemed so wild, and looked so queer, and appeared as though it could not get its breath good." It slept well that afternoon and night. Gave the medicine for a few days in less doses; and in less than a week there was not a vestige of the disease left.

Oct. 15, 1840, the following note was made: I am now giving the belladonna to children all through this region, and in no instance has it failed to cure, in from three days to three weeks. The cures seem perfect. The disease has occurred this season in families, the older children of which had been cured by the belladonna four years ago. In no instance has one of those taken the disease a second time.

Persons living out of my range of practice have often applied to me to come and see their children. My rule was to offer them a portion of the extract, with a letter to their physician, directing him how to use it. This they sometimes declined; and then I gave them the solution with directions for its use. A young man came to me and stated that his sister's children had the hooping-cough so badly, that one of them, three years old, was entirely confined to bed; and the other, of five years, was hardly able to be about. He wished me to give him medicine for the former; for the latter, they were trying a remedy from Philadelphia. In three days, he returned and wanted medicine for the latter, saying that the former was nearly well. Four days after he came again to get some for a neighbour, and said he considered his sister's children well. I never saw them. Every person was told what the medicine was, and how to use it.

In the summer of 1847, I was called to see a little boy, four years old, and his sister of two years. I cannot truly describe the condition of those little sufferers. Their face, body, and limbs were bloated; they were sallow and bloodless looking; frequent pulse after fits of coughing, with hurried respiration, mucous rhonchus, and excessive general distress and debility. The cough was frequent, prolonged, and exhausting; and in one of them was accompanied by discharges from the rectum during every paroxysm. A younger child, of nearly a year old, lay dead in the house from the same disease; although a most eminent physician, aided by the best means that wealth could command, had been in constant attendance. Nothing had done any good for any of these three children. The belladonna and carb. ferri were given to the two to whom I was called, and in ten days they were well. The result was truly astonishing.

A man came from Chester County to get some medicine for hooping-cough. I gave him some to take to his physician, wrote my directions for using it, and referred him to Dr. Jackson's communication in the *Medical Journal.* In a few months I met the same man, and asked him how his child was; he said that he did not know that the medicine did any good; the child was a long time getting well; that the doctor had called at his house recently, and

told them that he had killed three children with it, and had ceased to prescribe it. I asked: Is he intemperate? He replied in the affirmative. A few months afterwards he died of delirium tremens.

In November, 1850, the disease again appeared in this region, and I used the belladonna freely with good effect. I will briefly mention a few cases.

Three children of three, five, and seven years of age, coughing badly, began the youngest with nine drops, the others more; increased rapidly until perceptibly affected. Well in ten days.

Nov. 19. M. R.'s son, three years old, has taken the medicine for one week. Mother thinks him nearly well. 25th. Is quite well. A younger child afterwards took the medicine.

Three children, eldest five years old, youngest four months, took the medicine so as to be under its influence daily; well in one week. Scores of such cases might be offered, but it is unnecessary.

I will mention one of a different character.

S. S.'s child, boy, five years old, coughs badly, strangles much. Nov. 13, began with ten drops every three hours. 17th. Takes thirty-five drops every three hours; no relief. Ordered it every two hours, and increased freely. 21st. Takes ninety drops every two hours; produces none of the characteristic effects of belladonna. I continued this medicine in teaspoonful doses for several days longer, but with little apparent effect upon the cough.

I cannot believe that the parents deceived me in their account of the case. The other children were also taking it, and with relief; while this one suffered so much as to be the greatest cause of anxiety to them. Nor was there any other disease. It was a pure hooping-cough. It is true that I prescribed it in very many cases in which it did but little good; but that arose from the inefficiency of the administration.

Jan. 15, 1851. I prescribed the belladonna for four children in one family. The youngest was nearly two years old, and suffering somewhat from the irritation of teething. It took one dose of nine drops the first day; another dose next day; and about 10 o'clock on the third day got a severe fit. I was sent for in much haste. When I came, the mother said: "Doctor, you have killed my child with that stuff. I'll never give another drop of it to any of my children." As I knew the family well, I reminded her that others of them had had fits while teething. She said that not one of them, seven in number, had escaped having fits while teething. The child soon recovered from it, and yet the mother continues to say that she does not know that it was the medicine that produced the fit, but she would never give it. There was not the least evidence of the child being affected by the belladonna.

I mention this case to show how it is that there is a fear kept alive among the people in relation to this medicine. Such cases are noised abroad. If anything at all should happen to a child who is taking belladonna, it is charged to the medicine; hence physicians are reluctant to assume the responsibility of giving it, when they can pursue the old plan, which is without risk.

During the last seventeen years, I have given the extract of belladonna to hundreds of patients, from two months to fifty years of age, and am firmly convinced that it has a greater control over hooping-cough than any other remedy in common use. That, while in a few cases the system did not seem

susceptible to its action, in the doses I have prescribed, yet, in nearly all, the disease yielded quickly. It is a safe and efficient remedy for pertussis in children of any age. It is very remarkable that, after the publications made by Dr. Jackson in the *Medical Journal*, we should have book after book upon the diseases of children, and the whole host of old and useless remedies for hooping-cough carefully noted, without a word in favour of belladonna.

ART. VII.—*A very large Mesenteric Tumour, simulating Ovarian Disease, successfully extirpated.* By P. J. BUCKNER, M. D., of Cincinnati, Ohio.

THE subject of the following case was under the care of G. E. Eels, M. D., of Lithopolis, Ohio. It was looked upon as a case of ovarian disease; and, believing it a favourable one for extirpation, the patient was so informed, and advised to consult G. W. Boerstler, M. D., of Lancaster. Mr. Tegarden accordingly took his wife to see Dr. Boerstler, who, upon examination of the case, concurred in the diagnosis given by Dr. Eels, and also advised its removal. Through him I was subsequently consulted by letter, and requested to undertake the operation.

Dr. Eels furnished me the following history of the case:—

On the 15th of April, 1849, my attention was first called to the case of Mrs. Tegarden. I found her in the enjoyment of excellent health, the mother of eight children, the youngest six months old. She informed me that, soon after her last confinement, she had discovered a small tumour within the abdomen, which was increasing in size, but up to this time gave her no particular inconvenience. On making an examination, I found the tumour as had been represented, within the abdomen, about the size of an orange, occupying a central position directly above the pubis. It was movable in various directions, insensible to pressure, surface smooth.

On examination per vaginam, I became convinced it had no attachment to the uterus, but could not satisfy myself in regard to its nature or connections. How long it had existed, she could not tell; and as she had been attended by an ignorant midwife in all her confinements, nothing could be learned from that source.

She was put upon the use of iodide of potassium internally, with an occasional laxative, and the iodo-mercurial ointment externally. These agents were continued some months, from the use of which she fancied some diminution of the tumour took place. I was satisfied, however, that such was not the case, although it did not increase to any appreciable extent. Sometime in the month of April, 1850, she became pregnant, and owing to the irritability of the stomach all medication was suspended.

During the first months of gestation, the patient enjoyed a usual degree of good health, but the latter part of the period was one of continued suffering, from frequent attacks of colic. Some of these attacks were extremely severe, threatening a speedy termination in death. She, however, suffered on to the

end of the term, and on the 11th of January, 1851, after a natural and easy labour, gave birth to a full-grown, healthy, male child.

The morbid tumour was, during gestation, easily felt above and to the left of the uterus. After her confinement, the tumour was discovered to have very much increased in size, and was troublesome both on account of its weight and the obstruction which it occasioned in the intestinal tube, for attacks of colic, although not as severe, were still very distressing. By its pressure upon the fundus of the bladder, the functions of that organ were also deranged.

Under these circumstances, being convinced that the only reasonable hope of relief was a resort to an operation for the removal of the tumour, the patient was referred to my much valued friend, Dr. Boerstler, of Lancaster, for further advice. The doctor's views of the case coincided with my own; and at his suggestion, and by mutual arrangement, the case was reported to yourself, with the request that you would operate, if you should concur with us in thinking it advisable.

The patient has been made fully aware of the dangers and uncertainties attending such operations, and is extremely desirous that the operation should be performed, provided her medical advisers think her case affords as reasonable a hope of success as the majority of such cases.

Not having seen the case, but having the utmost confidence in the medical skill of my worthy friend, Dr. Boerstler (at that time having no acquaintance with Dr. Eels), I addressed a letter to the former, advising that the patient be put under suitable treatment to prepare her for the operation; that, when in a proper condition, if notified, I would visit the lady, and if I should, on seeing her, concur with them in the character of the disease, and deem an operation practicable, I would operate.

The patient was, on the 9th of September, put upon a preparatory course of treatment, consisting of low farinaceous diet, with an occasional laxative composed of blue mass and comp. ext. colocynth, which was continued up to the time of the operation.

I visited and saw the lady for the first time on the 3d of October, 1851. On examination I found a firm, rather elastic tumour, in the abdomen, in feel and appearance about the size of a man's head, occupying rather a central position, but rather the more prominent on the left side. It was smooth and spherical, and freely movable in every direction, having very little sensibility manifest on pressure. From the freedom with which it could be moved and pushed into either side, or elevated and depressed by the hand, I felt justified in the conclusion that there were no very firm adhesions, if any.

Examination per Vaginam.—I found the uterus of normal size, and *in situ*, easily moved from side to side by the index finger, apparently having no connection with the tumour; which, however, could be felt through the walls of the vagina, above and anterior to the uterus. After a careful examination of the case, I confess I was led to concur with the attending physicians in the opinion that it was ovarian in character, and presenting as favourable a case for operation as is usually met with, and so expressed myself to the patient and her friends. At the same time, I informed them of the uncertainty which attends the diagnosis of such cases, the difficulties attending the operation, as well as the danger and uncertainty of success. I further remarked to the patient and her husband that I would not advise the operation; but, if

she desired it, after having been made fully aware of the magnitude and hazard of the operation, I would operate. She remarked that her attending physician had apprised her fully of the character and danger of the operation, and that she had made up her mind to have the tumour removed.

Operation.—On the next day, the 4th of October, 1851, I proceeded to the operation, in presence of Drs. G. E. Eels, Boerstler, Minor, Potter, and several other medical gentlemen. The patient, after being suitably dressed for the operation, was placed upon a table, her head and shoulders supported by pillows, and her feet resting on two chairs. Dr. Eels administered chloroform; when fully under its influence, the abdomen was divided in the linea alba, from the umbilicus to pubis, by an incision of nine inches; the peritoneum being carefully divided, the tumour was brought to view; when, to our surprise, it was discovered that the tumour was in the *mesentery* between the lamina of the peritoneum, and surrounded by the small intestine. Here was a state of things requiring sound discriminating judgment, cool and deliberate action, certainly involving great responsibility. I need not tell the reader that no one felt it more than myself. I remarked to my medical friends, and in the presence of the husband, that we had before us a much more formidable case than we had anticipated; that, in removing the tumour, the intestine must be dissected from its connection with the mesentery twelve or fifteen inches, and great and extensive injury be done to the peritoneum; that numerous bloodvessels would be divided, and the hazard to the woman's life greatly increased beyond the common operation of ovariotomy, if she could by possibility recover at all. And I suggested that it was a grave question of duty we had to decide, whether we should close up the wound in the abdomen and leave the woman to her fate, or proceed with the operation and remove the tumour.

The husband, with great firmness and decision, replied: "*Gentlemen, I have neither advised nor opposed the operation, but have left it entirely to my wife, who determined to have it removed; as you have gone this far with it, and she cannot now be consulted (being unconscious from the action of chloroform), it is my wish that the tumour be removed.*"

It was decided that the operation should proceed. An incision was made through the peritoneum, about an inch from the intestine on each side, and parallel with it, which divided numerous small vessels, that bled freely. These incisions were each in extent over twelve inches in length. With the aid of the thin edge of the ivory handle of my scalpel, I separated, rather rudely, the peritoneum and intestine, between those incisions, from the fibrous sac of the tumour, to the extent of at least twelve inches. By this procedure the bleeding from the numerous small vessels was prevented. The intestine being now freed from the tumour, I next, in a similar manner, separated the lamina of the peritoneum on either side of the tumour, from the parallel incisions backwards towards the root of the mesentery; when, on its posterior surface, I found a considerable branch of the superior mesenteric artery entering the tumour, which supplied its nutrition. This was secured by ligature, divided, and the tumour removed. Several small arteries required to be ligated; the parts were sponged as clean as practicable, the detached intestine was folded as the link of a chain, so as to bring the raw surfaces of the intestine and peritoneal margins in contact, and the omentum majus brought down over it to hold it *in situ*. The abdomen was closed by five interrupted sutures, supported by adhesive strips, covered by compress and bandage, and the lady placed in bed.

The whole operation did not exceed thirty minutes; the patient was not restored to consciousness until after she was placed in bed; and was wholly unconscious of pain during the entire operation.

I left the patient that afternoon in the care of her family physician, Dr. Eels, who kindly furnished me the following history of the subsequent treatment and symptoms of the case:—

The prostration following the operation was very great. Pulse remained small and very feeble through the day, with cold extremities. Gave her nitrous ether twenty drops, tinct. opii five drops every hour, and dry warmth to the extremities. At 9 o'clock P. M. the patient began to revive, and at 10½ she slept quietly one hour. She awoke much refreshed, and was comfortable the remainder of the night; suspended nit. ether and tinct. opii.

October 5th. 8 o'clock A. M. Patient comfortable; pulse 100, soft and good volume; some thirst; skin natural temperature. Emptied bladder by catheter; urine one-half pint, and natural. Ordered toast or rice-water for nourishment, tinct. opii twenty-five drops, if restlessness supervened.

6th. 9 o'clock A. M. Still comparatively comfortable; pulse 110, soft; skin slightly above natural temperature and dry; great thirst set in. Bladder has been emptied three times, twice by catheter; urine high coloured, quantity one pint. Abdomen not swollen or tender on pressure; but she complains of darting, lancinating pains. Ordered ice water applied to the abdomen; sponge surface (face and hands) with tepid water, and give tinct. opii twenty-five ♏. 6 o'clock P. M. Comfortable; pulse 100, soft; skin natural; has no pain in abdomen; bladder emptied at 3 o'clock. Prescription continued.

7th. 7 A. M. Had a comfortable night, slept quietly at intervals; pulse and surface the same as at last report. Thirst urgent; abdomen slightly tumefied, but without pain or tenderness. Prescription: continue ice and ice water; tinct. opii *pro re nata.* 6 o'clock P. M. The same as this morning; urinated freely without aid; one pint, high coloured. Prescription the same as this morning, with the addition of an enema of warm water.

8th. 9 o'clock A. M. Present, Drs. Boerstler and Potter. Patient rested well; pulse 112, soft; skin soft, and a little above natural temperature; complains of no inconvenience but fatigue from her confined position. Bowels moved by enema, dejections yellow, mostly fluid; urine drawn off twice during night, natural. Abdomen less distended, and without pain or tenderness on pressure. On removing the dressings, we found that no adhesion had taken place in the integuments, and but slight appearance of lymph; condition of the subjacent muscular incision not examined. Prescription continued. 6 P. M. Same as this morning; took twenty-five drops tinct. op. at 12 o'clock, and rested well.

9th. 7 A. M. Patient had a quiet night. Pulse 105, soft; skin soft and of natural temperature; tongue moist; thirst much diminished. Urinated two or three times without aid. Abdomen slightly tumefied. 6 o'clock P. M. General symptoms same as this morning. Enema passed off coloured yellow.

10th. 9 o'clock A. M. Took tinct. opii gutt. twenty-five at 9 o'clock last evening, and rested well. Pulse 120, soft and feeble; some heat of surface. Abdomen more distinct; no pain or tenderness; urinated freely. Removed the two lower sutures; dressed the wound with adhesive straps; no adhesion of the integuments; edges of the subjacent muscular tissue in apposition and adherent. Prescription continued. 6 o'clock P. M. No change in condition of patient; continued ice water to abdomen, and ice to allay thirst; nourishment, toast or rice-water; sponge surface with tepid water; tinct. opii twenty-five drops.

11*th*. 8 o'clock A. M. Same as last report. Pulse 115, soft; skin natural; tongue moist and white; abdomen free from pain or tenderness; rather more distended. Prescription sulph. magnes. ʒij every three hours until the bowels are moved, to be hastened by an enema of warm water. 6 o'clock P. M. Symptoms same; enema came away coloured yellow. Prescription. Suspended sulph. magnes., repeat enema.

12*th*. 9 o'clock A. M. Patient took no anodyne last night; consequently, did not rest well. Complains of fatigue only. Bowels have been opened twice; discharges semi-fluid, natural; pulse 120, soft; skin moist; thirst less. Abdomen less tumefied, with no pain or tenderness on pressure. External incision presents no appearance of adhesion; edges pale and flabby; a small quantity of healthy pus at the lower angle of incision. Brought the edges in apposition, and secured them by adhesive straps. Prescription. Omitted cold-water dressings, and allowed the patient more nourishment, such as milk, weak animal broth; anodynes *pro re nata*. 6 o'clock P. M. The patient has been more comfortable than any day since the operation. Prescription continued.

13*th*. 9 o'clock A. M. Pulse 115, soft; skin soft and cool, rested well through the night. Abdomen more distended; discharge from incision more abundant. 6 o'clock P. M. No change in symptoms since morning; urinated one pint and a half, natural. Prescription. Sulph. magnes. ʒij., enema of warm water and molasses.

14*th*. 9 o'clock A. M. Patient comfortable; pulse 108, soft; skin cool; tongue moist; no thirst; some appetite; no pain or tenderness of abdomen, though more distended. Edges of integuments not united, less pale than at last dressing; bowels slightly moved. Prescription. Repeat sulph. magnesia. 6 P. M. Continues comfortable; bowels moved twice, discharges fluid and yellow. Prescription. Tinct. opii gutt. twenty-five.

15*th*. 9 A. M. Pulse 103, soft; skin natural; has had three discharges from bowels, yellow and fluid. Patient rests well, sleep quiet; pus more abundant from wound. Adhesion between the edges of the muscles appears firm; integuments adherent to the subjacent muscles. 6 P. M. No change in condition of patient. Took twenty-five ♏ tinct. opii at 12 o'clock.

16*th*. 8 A. M. Found our patient more restless; abdomen distended; pulse 115, soft; urine copious and natural; skin cool; some thirst; face flushed. Prescription. Morphine gr. half. 6 P. M. Very restless; pulse 120, soft; face flushed; abdomen greatly distended. Prescription. Enema of warm water and molasses which moved the bowels freely; discharges contained much hardened feces. Prescription. Tinct. opii gutt. twenty-five, to be repeated if necessary.

17*th*. 9 A. M. Present, Drs. Boerstler, Minor, and Potter. Patient rested well through the night, and more comfortable this morning. Abdomen less distended; pulse 115, soft; skin soft and cool; face flushed. Condition of wound. The edges of the muscles were found to be firmly united; the integuments also adherent to muscles beneath. As the abdominal cavity evidently contained fluid, a small incision was made through its walls at the lower angle of the wound (by Dr. Boerstler), from which escaped two pints of blood in a state of decomposition, and very fetid. This fluid was examined by Dr. Boerstler with the following results: "Under the microscope the blood-disks were found very much broken down, and filled with air, which frequently coalesced under the field of vision. The liquor sanguinis presented the appearance of water in which flesh had been washed, and was filled with innumerable globules of from one to four lines in circumference (under a magni-

fying power of 120 diameter), which we supposed to be pus-globules. A portion of the blood was submitted to heat, nitric acid, and liquor potassa; not the slightest trace of fibrin could be detected. The liquor potassa produced a blackish precipitate, presenting under the microscope broken up pus-globules." Prescription. Sulph. morphia gr. half. Ordered beef tea for nourishment. 6 o'clock P. M. Wound discharges copiously; the character the same as this morning; no change in symptoms; appetite good. Prescription continued.

18*th*. 8 o'clock A. M. Patient rested well through the night; had one natural operation from the bowels; pulse 110, soft; skin natural; tongue moist; discharge from wound half a pint; character same as yesterday; 6 P. M. continues the same.

19*th*. 9 o'clock A. M. Present, Dr. Potter; patient quite comfortable; pulse 98, soft and more volume; skin cool; abdomen much reduced, with no pain or tenderness on pressure; can turn herself on either side with ease; discharge from wound during the night and this morning three-quarters of a pint of same colour and odour as yesterday, but more tenacious; flush of face gone. Takes her beef tea with relish. Pres. tinct. opii, if necessary to overcome restlessness. From this time she continued to improve gradually; the discharge from wound diminished and assumed a different character, becoming less fetid, and less appearance of blood, assuming daily more the character of pus. On the 28th of October, it was pure healthy pus, and small in quantity.

November 8*th*. The patient is able to be up, and walked across the room. The wound discharges a limpid serum without a trace of pus. Her health is good; she feels no inconvenience from the operation but weakness; bowels regular. Allowed her a more generous diet of animal food and porter.

11*th*. Either from over-exertion, a slight cold, or improper diet, our patient became feverish. Hot skin; flushed face; pulse 100, soft; some headache, with complete loss of appetite. There is also some tenderness of the abdomen, with a considerable degree of hardness. Discharge from lower angle of wound, again purulent; in quantity, about two tablespoonfuls in twenty-four hours; bowels constipated. Pres. R. Blue mass, ext. colocynth comp., āā grs. v. M. ft. pil. Fomentations to abdomen; toast-water, as both drink and nourishment. The use of porter suspended.

12*th*. 9 o'clock A. M. Found our patient better; bowels moved three times; discharges natural; pulse 96; skin, natural temperature; no thirst; abdomen still rather hard and tender; discharge from wound about same as at last note. Pres. pulv. Doveri grs. v. every three hours; fomentations continued.

13*th*. This morning found patient improved; pulse 90, soft; skin moist; appetite improving; less tenderness in abdomen. Pres. continued.

14*th*. Continues to improve; tenderness of abdomen much diminished; discharge from wound less; appetite good; bowels regular. From this time the patient recovered rapidly, and, on the 20th of November, was able to be up again; the wound entirely ceased discharging.

26*th*. Our patient is in the enjoyment of excellent health; is able to attend to her household duties. The wound has entirely healed. The space between the edges of the integuments, occasioned by the want of union by first intention, filled up by granulation, leaving a cicatrix of four lines in width. It is now about nine months since the operation was performed; the lady still continues to enjoy excellent health.

When we take into consideration the tissues involved, the terrible and ex-

tensive lesions in the peritoneum, the extent to which the intestine was detached from the mesentery, as well as the division of numerous bloodvessels so freely anastomosing with each other, as the arteries of the mesentery, it certainly presents a case, if not without a parallel in the annals of surgery, at least one of rare occurrence. It shows, in a remarkable degree, the power of nature to repair injuries.

The most remarkable feature in the case is that the bowels should maintain their integrity of function; that so extensive a lesion of the chyliferous vessels should be followed by no disturbance of the nutritive functions; so far as can be judged of from her general health it remains unimpaired. In truth, she recovered in as short a time, and with as little suffering, as patients generally do who have undergone the operation of ovariotomy.

I cannot conclude the report of this case without acknowledging my obligations to my friend Dr. Eels, who conducted its subsequent treatment, to whose skill and indefatigable attention may be, in a great manner, attributed the favourable termination of the case. Also for the minute details of the symptoms and treatment which he has kindly furnished. I would in this connection also acknowledge myself much indebted to my venerable and worthy friend Dr. Boerstler, for his valuable aid and attention to the case.

The case presents at least another instance of the difficulty and uncertainty of diagnosis, in abdominal tumours, and fully confirms the justness of the remarks of that distinguished physician, J. Macfarlane, M. D., of Glasgow. In his admirable *Clinical Reports*, he says:—

"There is not, in fact, a more difficult and uncertain part of medical practice than to distinguish between different tumours daily to be met with in the abdomen, or to obtain anything like conclusive or satisfactory evidence as to their origin and connections. It is this uncertainty of diagnosis, so generally felt and acknowledged, that renders the question regarding the propriety of surgical interference so interesting and important. This difficulty is increased, because, in all the artificial divisions of the abdomen, there is situated, not a single organ, but a variety of parts—in any one of which the tumour may be situated. If it exists in the centre of the abdomen, it may arise from the peritoneum, the omentum, the intestines, the mesentery, the stomach, &c.; if in the hypogastrium, from sources not less obscure, as the uterus, ovaria, cæcum, &c."

This obscurity of diagnosis can only be overcome by large experience and practical observation. Hence the value to the profession, and especially the junior members, of faithfully reported cases. I have given the case with the hope that the practical facts, and deductions to be drawn from them, will be of service to others, though it may subject me to the censure of some of my professional brethren who are opposed to such operations, and who may, perhaps, feel disposed to charge me, not only with error in diagnosis, but even rashness and an unwarrantable interference, in proceeding with the operation, after it was discovered to be located in the mesentery. But, feeling satisfied that, if we should abandon the operation, after so extensive a section of the abdomen, and leave the tumour, she would ultimately die from the increase of

the morbid growth, if she should even escape the immediate hazard of peritoneal inflammation, and being urged by the earnest desire of the husband to complete the operation if possible, I felt warranted in proceeding. The result is but another instance of the many achievements of modern surgery; though I would not be understood as advocating the Utopian doctrine, that "*the end justifies the means.*"

ART. VIII.—*A Case of Leucocythemia.* Communicated by ADDINELL HEWSON, M. D., Resident of Pennsylvania Hospital [with a wood-cut].

IN a series of papers published in various numbers of the *Edinburgh Monthly Journal of Medical Science*, for the years 1851-'52, Professor J. Hughes Bennett has called the attention of the profession to a peculiar condidition of the blood found in some cases of enlargement of the spleen, thyroid, and other lymphatic glands to which he has given the name of *leucocythemia*, from the increased number of white blood-cells found in such blood. These papers contain the histories of thirty-seven cases collected from various sources, and some very valuable remarks from Professor Bennett. From the fact that this peculiar condition of the blood has heretofore escaped the attention of the profession, and that it appears to throw some light on the functions of the spleen, these papers present much interest to the profession, and cannot be too widely disseminated in this country.*

As yet no cases of this blood disease have been published in this country, and we are therefore justified in presenting, in detail, the history of the following one, which came under our observation in December last, but which, owing to want of leisure, we have not before been able to present to the profession.

Charles Robinson, a native of Philadelphia, aged seventeen years, was admitted into the hospital, December 18, 1851, when he gave the following history of himself: He had just returned from a voyage at sea; had been to Wilmington, North Carolina, and to St. Martins (West Indies). He was in Wilmington in October, during the prevalence of the miasmatic fevers of that place, but was never unwell there. He then went to St. Martin's, from which place he sailed for Philadelphia, about the end of November; the voyage occupied twenty-three days. He was taken ill when a few days out from St. Martins, and continued so until his arrival here, when he sought admission into the hospital. He was anemic, lips and tongue blanched, lower extremities œdematous and feeble. Complained of no pain in any particular region, but of general debility. His first symptoms had been those of lassitude with pains in his limbs. He had never had intermittent in his life, and was confident

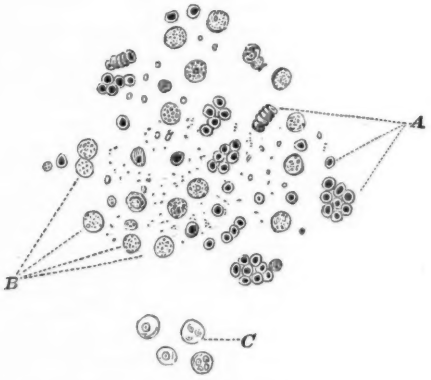
* We believe they have been collected and published in pamphlet form by Professor Bennett, in Edinburgh.

that he had not had a chill on the voyage home. He had never noticed any enlargement of his abdomen, and was never conscious of the existence of a tumour there. He always thought that his illness arose from the œdematous condition of his feet. He had suffered for some days with diarrhœa. His abdomen was much distended, measured twenty-eight and a quarter inches in its greatest girth; the left half was the larger, and was dull over the greatest part of its extent. The lower border of a tumour could be felt through the walls of the abdomen on that side. It extended by percussion from the lower edge of the sixth rib down to a line parallel from the umbilicus, eight and a half inches; and it was nearly eight inches broad. Its anterior border extended to within an inch of the mesian line, and was indented one inch below the cartilages of the lower ribs. The liver was slightly enlarged; it extended one and a half inches below the lower border of the ribs. His urine was scanty, sp. gr. 1017; no abnormal sediment; no precipitate by heat or nitric acid. There were no signs of any disease of his lungs; there was a slight bellows murmur to be heard over the heart and the large vessels. He had had epistaxis. He was ordered pilul. ferri carbonat. gr. v, thrice daily. Infus. bacca. juniperi Oss, daily. Good nutritious diet.

On Saturday morning (Dec. 20), Dr. Wood presented him before his class, and called their attention to the possibility of his being a case of leucocythemia, as had been suspected by us the day before, but which, owing to our microscope not being conveniently at hand then, had not been determined. Whilst in the lecture-room he had a chill and had to be removed to the ward, where he was ordered tinct. opii camphorat. ʒj, and warmth to his extremities. This chill was soon followed by fever, which did not leave him until dark, when he was ordered quinia sulphat. gr. iv every four hours.

In the evening we examined his blood, and found a great redundancy of the white corpuscles. The following is a sketch of the microscopic appearance of some of his blood.

Fig. 1.



A. The red blood corpuscles. B. The white blood corpuscles.
C. The same treated by acetic acid.

On the following day he had some epistaxis in the morning, and complained of ringing in his ears, but had no chill. He was ordered quinia

sulphat. gr. ij thrice daily, and to continue the pills of iron and the infusion.

On Monday (22d) the œdema had all disappeared, and the diarrhœa had ceased. His urine was normal in quantity. The infusion was stopped, the rest continued.

On Wednesday (24th) he was doing well. Pulse 100. Tongue clean but pallid. Bowels open twice in the twenty-four hours. Spleen somewhat diminished in size; had receded one and a half inches on its anterior border. He had passed two quarts of urine in the last twenty-four hours, which deposited on cooling prismatic crystals of the triple phosphates, uric acid crystals, and epithelial scales. He was ordered to continue the iron and quinine as before.

On Friday he was still improving, and the quinia was ordered gr. j four times a day.

By January 1, he had much improved in general appearance; had gained in flesh and had a good colour. His bowels were regular, his appetite good. His spleen had receded one inch since the 24th of December, but the girth of his abdomen had increased to thirty inches. The size of the liver had been noticed to be increasing for some days; its lower border now extended as low as the crest of the ilium, and was the cause of the increased size of the abdomen. This increase of the liver appeared to have been in direct ratio with the decrease in the size of the spleen.

He was ordered pilul. hydrarg. gr. ij four times a day, and to omit the quinia but continue the iron as before.

January 3. He was about the same. Walls of the abdomen tense, tenderness over the liver. A drop of blood from the finger presented, as before, under the microscope a redundancy of the white corpuscles. He was ordered emplast. cantharid. six by six inches for the right hypochondriac region, to continue the pilul. hydrarg., but omit the iron. Milk diet.

18*th*. The spleen had continued to decrease since last note, and was reduced to about five inches in length. The liver had also decreased, the lower border was then about two inches below the ribs. He had good appetite. Pulse good, 100. Tongue clean. Skin over the whole surface of his body presented a slightly mottled appearance. His blood was found to present the same appearances as at previous examinations; it might be possible that the white corpuscles had slightly decreased in number, but it was difficult to determine this fact with any degree of certainty. The pilul. hydrarg. was stopped, and he was ordered acid. nitro-muriat. gtt. v thrice daily. Soup diet.

The above treatment was continued up to the 20th of January, when he was seized in the evening with purging and vomiting, which continued through the night, and on the following morning he had some fever with headache. Pulse 120. He was confident that he had had no chill. His abdomen was tense, greatest girth thirty inches. The lower border of the liver was about two inches below the ribs. The spleen had very much increased since last note, it now extended to within an inch of the marks (in nitrate of silver) of its size at the time of his admission. He was ordered quinia sulphat. gr. iv thrice daily. Pilul. ferri carbonat. gr. v thrice daily. Emplast. cantharid. six by six inches to be applied over the spleen.

On the 27th of January, his spleen was found to have diminished in size, its anterior border had receded two inches. The lower edge of the liver was about three inches below the ribs. Skin natural, pulse 100. Colour good. Bowels open twice in twenty-four hours. His blood presented fewer of the white corpuscles.

Two days after this his spleen was found to have decreased to as small a size as it had ever been since his admission. His liver was only two inches below the ribs.

These organs gradually decreased until they reached their natural size; his general health was very much improved, and he was discharged as cured on the 16th of February. His blood, examined by the microscope, was apparently healthy.

He called to see me during the month of April, and was apparently in perfect health, but a drop of his blood presented still some redundancy of the white corpuscles. He had not been unwell a day since he left the hospital, in February.

Remarks.—The symptoms in this case are similar to those in many of the cases reported by Professor Bennett. In this case we can scarcely consider that the *blood-disease* was cured, as signs of it existed in April, although the patient was apparently in perfect health.

The engorgement of the liver coming on as the spleen began to diminish, and the subsequent increase of the spleen as this engorgement of the liver began to yield to remedies directed to it, is peculiar and interesting. It might be thought at first that this engorgement of the liver arose from the highly tonic plan of treatment employed in this case, particularly as it disappeared when the treatment was altered, and the remedies directed to its peculiar condition. But it did not return after the same tonic treatment was resumed, and it is difficult, from having observed the various changes in the case, to divest one's mind of the idea of some counterbalancing or sympathetic influence between the two viscera.

This peculiar condition of the blood is not to be found in all cases of enlargement of the spleen, for since our attention was called to the subject we have examined the blood of a number of anemic patients with great engorgements of that viscus, the result of obstinate intermittents, but in none of them have we been able to detect, after careful examination, any increase of the white corpuscles. The same may be observed of a case of enlargement of the thyroid gland in which we examined the blood. We have to regret that there was no chemical analysis made of the blood in this case of leucocythemia.

This pathological condition of the spleen throws great light on the true functions of that organ, and tends greatly to the support of the views first promulgated nearly eighty years ago, by our grandsire, Wm. Hewson. He considered the spleen as belonging to the lymphatic glandular system, and that it was engaged in the more perfect formation of the red corpuscles from the white. These white corpuscles of the blood he considered the same as the cells of the chyle and lymph, and that they contained nuclei capable of development into the red corpuscles. In the spleen this development takes place, and the red corpuscles are carried into the general circulation by those lymphatics of the spleen which empty into the thoracic duct, and are the true excretory ducts of the spleen. Such or similar views have since met the support of Tiedemann, Gmelin, Donne, Schultz, and others. To enter into their

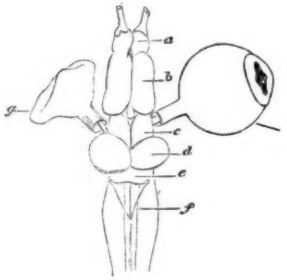
details, or to state the arguments *pro* and *contra*, would be foreign to the object of this communication. We must, therefore, refer those desirous of further information on the subject to the valuable paper by Professor Bennett, on the "Functions of the Spleen and other Lymphatic Glands," in the number for March, 1852, of the *Monthly Journal of Medical Science*, and to the "Works of Wm. Hewson," republished by the Sydenham Society, London, 1847.

PENNSYLVANIA HOSPITAL, *August* 18, 1852.

ART. IX.—*Blindness in one Eye attended with Atrophy of the Optic Nerve and Optic Lobe.* By JEFFRIES WYMAN, M.D. [With two wood-cuts.]

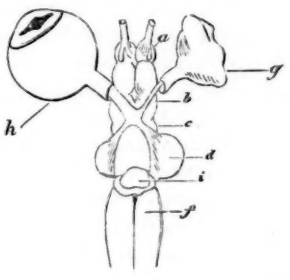
THE dissection here described was made on a common Bull-frog, which, when caught, had from accident become wholly blind in the left eye; and in this condition remained in my possession alive more than seven months. The contents of the globe were entirely evacuated, the wound was completely cicatrized, though the remnant of an eye was still movable, and was retracted or protruded simultaneously with that of the opposite side. The following are the appearances which were presented by the dissection, and which may be readily understood by a reference to the figures:—

Fig. 1.



UPPER.

Fig. 2.



LOWER.

a. Olfactory lobes and nerves.
b. Cerebral lobes.
c. Optic thalami.
d. Optic lobes, the right atrophied.
e. Cerebellum.
f. Medulla oblongata and fourth ventricle.
g. Injured eye (the left) optic nerve atrophied.
h. Sound eye.
i. Pituitary body.

The sheaths of the optic nerves exterior to the cranium presented no marked difference. Within the cranial cavity they were seen to be of quite different sizes; that on the right preserving its usual dimensions, while that on the left was reduced to a mere filament, as far as the chiasma. Behind

the union of the nerves the optic tract of the left side retained its usual proportions; while that on the right had become atrophied to the same extent as the left nerve in front of the chiasma; and the prominence which this tract makes on the side of the optic thalamus was scarcely traceable. The right optic lobe was likewise obviously atrophied, its measurement being reduced by about one-third.

In the dissection of a second frog, blind in the right eye, there was an equally manifest atrophy of the left optic lobe; but the condition of the nerves was not seen, as the dissection was made from above only, the lower surface of the brain not having been exposed.

We have then, in both instances, atrophy of the optic lobe opposite to the injured eye, as the attendant of blindness and disuse. In the first case described, the atrophy of the nerve was on the same side before the junction of the nerves, and on the opposite side behind the junction.

In classifying the cases in which the optic nerve undergoes atrophy in consequence of blindness, and with reference to its extension beyond the chiasma, Longet arranges them in three groups:—

1. Those in which atrophy extends beyond the chiasma *on the same side* with the injured eye.

2. Those in which the atrophy is on the *opposite side.*

3. Those in which, with blindness in one eye, and atrophy of one nerve in front, there is atrophy *on both sides* behind the chiasma.*

There is another class of cases, and which Longet thinks is the most numerous, where the atrophy extends from the globe to the chiasma only, but not beyond it. The cases, however, in which there is atrophy before and behind the chiasma, with atrophy of the optic lobes, would seem to be far less numerous, or at least to have attracted much less notice. Gall thinks he has found the anterior optic tubercle belonging to the nerve of the injured eye, atrophied in every instance. Other instances are mentioned by Duges, Magendie, and Lebert, in which one or both lobes have been atrophied, according as blindness existed on one or both sides; and others, in which the atrophy extended even to the optic thalami.

These cases are of especial interest, since they show that the optic lobes (*Tubercula bigemina* in birds, reptiles, and fishes, and *T. quadrigemina* in mammals) play an important part in the function of vision; but we are not, therefore, by any means, to infer that this is their only use, since comparative anatomy demonstrates their presence in a well-developed condition in animals like the Proteus, and the blind fishes of the Mammoth Cave (*Amblyopsis spelaeus*), where the eyes either do not exist, or are reduced to a rudimentary condition.

The instances which I have given in this notice are opposed to the state-

* Cruveilhier thinks that in every case of blindness in one eye, the atrophy is more especially visible on one side beyond the chiasma, but that the other nerve likewise presents a perceptible difference in size.

ment of Desmoulins, based on experiments made upon the lobes themselves, that in frogs each lobe corresponds to the eye of the same side only. Longet was not able to satisfy himself of the correctness of Desmoulins's statement, when he tested it by actual experiment.

CAMBRIDGE, MASS., *Aug.* 1852.

ART. X.—*Cases of Cerebral Disease.* By THOMAS F. COCK, one of the Visiting Physicians to Bellevue Hospital, New York.

HAVING recently met with several cases of cerebral disease, I have ventured to place them before the profession, with an apology for the imperfect histories, which deprive them of a portion of their value. The circumstances under which patients exhibiting this form of disease enter a hospital, necessarily preclude any accurate account of their previous ailments, while the dulness of intellectual power during their stay, prevents an exact appreciation of symptoms; while not unfrequently the autopsy alone discloses lesions, of which the history affords no signs. The *post-mortem* examinations have been carefully conducted, and, if not minute, have at least the merit of having been recorded on the spot. One case of well-marked ramollissement which presented itself in July, I have omitted simply because no history whatever could be traced.

The case of gangrene is worthy of attention on account of its rarity.

CASE I.—*Cerebral Phlebitis. Otorrhœa.*—Saturday, Sept. 14, 1850, was called to see Mr. P. W., a merchant, aged 35, of regular habits and tolerably good previous health. Complaining of severe headache. Inquiry into his history elicited the information that his usual health was pretty good. That at five or six years of age he had a purulent discharge from the right ear, which was attributable to no recollected cause. Six years since he had intermittent fever. Within the past year the otorrhœa recurred, and for its relief he has been accustomed to use a syringe, and to drop in Scarpa's acoustic oil. Four weeks since, this discharge, which was at times very offensive, ceased, and has not since recurred.

On Thursday, Sept. 12, he consulted a physician, who advised warm applications to the ear, and some cathartic pills.

Present condition.—The patient complains of severe pain in the right ear, which extends to the temple, but not over the scalp; there is no discharge from the ear; hearing is impaired; tongue heavily coated with white fur; stomach very irritable; rejecting almost everything; pulse nearly 100; his manner of speaking struck me as unnatural and hurried, but this is said to be habitual. Bowels opened freely from the pills.

I had not long before seen an analogous case, with Dr. Metcalfe, which is recorded in the *New York Journal of Medicine*, vol. xiii. p. 335, and was led to apprehend a similar condition in the patient before me; with that view leeches were applied to the right mastoid process, to be followed by a fomen-

tation of stramonium leaves, and, to quiet the irritability of the stomach, an effervescing draught was directed.

On the 15th, the symptoms were abated in violence, but the nausea and pain continued in a less degree. During this day he had a chill. The bowels were kept open with salts and magnesia; a blister applied behind the ear; and an anodyne of hyos. et camph. directed for the night.

On the 16th, in the morning, he was somewhat relieved; and at my evening visit he had less pain, though the fever continued; the bowels had been freely opened, the evacuations being mucous, and of a greenish colour. Dr. Cock, Sen., my father, saw the patient this evening. I was sent for at night to see him, and found him in a severe chill, which lasted about half an hour, during which his face and nose were cold, while the extremities were warm, or rather hot, and this state was not succeeded by perspiration. In the course of the day (Sept. 17) he had another chill, though not so violent. In this connection it may be stated, that he had been spending some little time in a malarious district, and this circumstance made the import of the chills more doubtful, viz., whether to assign them to miasmatic influence or to pyæmia. At this time Dr. Parker saw him, in consultation. Leeches were again applied behind the ear and to the temple, and a blister to the nape of the neck. By these measures he was much relieved.

Inquiry was instituted as to the probability of meningitis. There was no flushing of the face, no increase of pulsation of the carotid on the affected side; the patient bore forcible jarring of the head without inconvenience; there was no intolerance of light or sound; no incoherence or delirium at any period; the pulse throughout was soft and frequent, ranging from 100 to 120.

No special note is recorded of his case for two days, owing to a pressure of business, but the symptoms were not materially altered. A chill was noticed on each day, occurring irregularly as to time. An anodyne was given each night.

On the evening of the 20th, however, symptoms of exhaustion became manifest. I found him, at my visit, upon the close stool, in which position he had fainted. The plan of treatment was changed, and stimulants with nutrition administered during the night.

Saturday, Sept. 21. He was found with a very feeble pulse; tongue brown and dry in the centre; sordes on the teeth; the stomach is retentive, but he has become exceedingly restless, while his mental powers are unimpaired. It is extremely difficult, however, to convince him of the danger of his situation. About 10 A. M. his condition demanded the most energetic exhibition of stimulants, together with means of sustaining animal heat. Accordingly, brandy in various forms, beef-tea, &c., were freely used, and artificial heat supplied. The stomach retained all that was given; he was in a state of constant jactitation; the hands and arms, as far as the elbows, were cold and clammy; the pulse at times almost imperceptible. During this day Dr. Cheesman was added to the consultation.

22*d*. The stimulants had been pursued all night, without permanent advantage, and the same plan was continued through this day. Intervals of alleviation occurred, but no radical improvement. He continued to swallow until about 5 P. M. At 6 he was in *articulo mortis*, the pupils dilated, and the pulse gone at the wrist, and at 6¼ he expired.

Autopsy. Sept. 23. The brain only was examined. The sinuses were much congested; about four ounces of serum were found in the ventricles; no lesion was noticeable until the right lateral sinus was reached; this was filled with a

clot semifluid at one end, having a gangrenous odour; on the cerebellum was a dark mark, corresponding to the diseased vessel, but it did not extend into the substance; no caries of the bone was discovered; the internal ear contained pus; the meatus externus was remarkably dry.

It is a matter of much regret that the examination was not prosecuted farther.

Case II.—*Phlebitis consequent on Otitis.*—This case occurred in the service of Dr. Alonzo Clark, and is extracted from the hospital register. The account being more accurate than in my own notes.

John Beton, æt. 20, Scotland, a shoemaker, was admitted into Bellevue Hospital October 24, 1850. Constitution delicate; habits temperate. He entered a surgical ward, but was subsequently transferred to the medical department.

Condition.—He has otorrhœa of the right ear, which has existed for the past eight or nine years; the discharge and pain being always aggravated by exposure to cold and moisture.

History.—He states that eight days previous to admission he slept in the open air, and the next day had a chill, succeeded by fever, and that, up to the time of entrance, he complained of lassitude, fugitive pains in the head, back, and lower extremities; and general indisposition to exertion of any kind. On the day after the first chill he had a second, and also on the 26th and 27th, at which time he was transferred to a medical ward, the case being regarded as typhoid fever. Pulse 140, small, and soft; tongue dry, and thickly coated with a dark-brownish fur, and reddened around the edges; bowels constipated.

Treatment.—He was ordered to have half an ounce of brandy every hour, and two grains of quinine every second hour. Throughout the progress of the disease he exhibited morbid tenderness of the surface, crying out when pressure was made either on the abdomen or chest. His intellect appeared somewhat dull, though, when questioned, he answered rationally, and there also existed a great deal of nervous restlessness; he was continually pulling up the bedclothes. The same treatment was continued, but without avail; and on the 29th he died.

Thirty-six hours before death he sank into a state of collapse, the pulse almost imperceptible, and the surface cold; but was partially revived by the free use of brandy, and the application of sinapisms; which state recurred twelve hours before death, and continued until that event.

Post-mortem.—On opening the brain, its surface was found much congested, three or four ounces of blood escaping. The arachnoid was a little raised from the surface of the brain by serous effusions slightly opaline. On the inferior surface of the right lobe of the cerebellum there was a dark stain, half an inch by an inch in extent, which did not penetrate below the surface, but was confined to the membranes; the substance of the brain was in the slightest degree softened, not discoloured. On the petrous portion of the temporal bone there was a patch one and a half inches long, and half an inch wide, of discoloration; its central portion white, as if by effusion of lymph or pus, and surrounded by a dark areola. On the removal of a portion of the cranium, comprising a part of the parietal and temporal bones of the right side, there was found a discoloured portion of the dura mater covering a cavity, the bone being destroyed to one-fourth of an inch in depth. In the soft parts, behind and beneath the angle of the jaw, there were dark, discoloured spots, extending downwards and along the course of the vessels.

On the inner surface of two veins of moderate size was a white discoloration, and thickening of the internal membrane, believed to be the result of phlebitis, which had its origin in the smaller twigs coming from the diseased bone. *Liver* normal in appearance; rather small; no abscesses. *Lungs—left* somewhat adherent posteriorly; *right* free from adhesions. Both lungs were covered with a number of small, dark spots; several of which had suppurated under the pleura, one or two in the centre. These were regarded as commencing metastatic abscesses. The blood was found generally in an unusually fluid state, though coagulated in the larger vessels.

Case III.—*Gangrene of the Brain.*—Michael Lyons, æt. 22, Ireland, labourer, of robust constitution and temperate habits, entered Bellevue Hospital August 16, 1851, with purulent and offensive discharge from the right ear, together with diarrhœa of three or four days' duration. Considerable difficulty was experienced in obtaining even an imperfect history of his case, owing to the dull state of his intellect, and excessive deafness. His statement was, that eight months since he had a cold, which was followed by a severe pain in the right ear; that this pain has continued, with varying severity, until the present time. A few days after the commencement of the pain, he felt a sudden snap, as though something had burst in his ear, and since then there has been a discharge from the external meatus, which has recently become of a fetid odour. At times he has heard a roaring noise in the ear. The deafness has been gradually increasing for the last two months. For the last four days he has had a sharp pain behind the ear and across the forehead.

The recollection of the preceding cases was too fresh in my mind not to fear a similar state in the present case. The history, the dull, lethargic aspect, the slow, hesitating, and imperfect speech, the constant yawning that interrupted his replies to my questions, all combined to induce a similar diagnosis. With all this, there was no lesion of vision, of motion, or of sensation; his pupils were natural in size; tongue moderately coated with a white fur; and pulse 75.

Of the treatment of the case it is unnecessary to remark farther than that it was directed with a view of checking the diarrhœa, and re-establishing the otorrhœa, which became suppressed on the 20th. The first was accomplished readily; all treatment of the cerebral symptoms proved nugatory.

The night following his admission he had a chill, followed by moderate reaction; and on the next day complained of violent pain across the forehead; the other symptoms remaining as before.

On the 20th, it is recorded, that the discharge from the ear ceased, and all attempts to re-establish it proved unavailing. Soon afterwards the patient commenced to vomit; which, after two hours' continuance, was arrested by creosote and the application of a sinapism to the epigastrium.

22*d*. On the evening of the 21st, as night approached, he became delirious, and continued so all night. At the time of the usual visit he was asleep. The surface bathed in profuse perspiration; pupils partially dilated; tongue moist, with a yellowish-white fur; pulse 100; respiration 20, and even. When roused from sleep, he answered incoherently.

23*d*. Condition not altered; but toward night delirium became violent, and restraint was necessary to keep him in bed; the pulse was frequent and feeble; the pupils widely dilated. Death occurred at 4 A. M.

Post-mortem seven hours after death.—Externally, abundance of frothy, dirty, yellowish-green fluid exuding from the nostrils, similar to what had been vomited previously.

On removing the calvarium, the scalp and membranes were markedly congested. The examination of the brain was commenced without removing the cerebral mass, by making horizontal sections. At the first incision an exceedingly fetid odour was noticed. Just over the ventricles the brain was softened, so much as to rupture, and permit the exudation of their contents; a dirty, greenish, sero-purulent fluid filled both cavities, and had imparted a dark-green colour to the walls of the ventricles, which tint extended about a line in depth; softening was also noticed. The next incision on the right side, after opening the ventricle, revealed a dark-green mass, in size three inches by two, resembling in appearance and odour a gangrenous lung; the smell, though very fetid, was not quite as pungent as pulmonary gangrene. This dark portion had a well-defined edge, which seemed elevated, and around its border the cerebral tissue was soft. The disease did not extend to the inferior aspect of the cerebrum. The brain was now removed, and, at the base sero-purulent fluid, of a yellow colour, existed abundantly. Pus was also found beneath the arachnoid, on the inferior surface of the cerebellum. The dura mater over the petrous portion on the right side appeared dark, but on removing the membrane, the subjacent bone was not diseased on the surface; the lateral sinus was filled with pus. The bone was removed and sawed open, but no apparent disease of its structure was found. Pus existed in the meatus auditorius. The right jugular vein was filled with fluid blood. The lungs were examined with a view to the discovery of metastatic abscesses, but none were found; and none existed in the liver. The other viscera were examined without detecting further morbid changes.

Case IV.—*Abscess of the Brain.*—James McDonald, æt. 40, Ireland, labourer, habits intemperate, admitted August 14, 1851.

History imperfect. A few days before admission, while at work in the sun, he was suddenly seized with a severe pain in the forehead, having, according to his own account, been in good health previously. The pain has continued to the present time without mitigation. There is no noticeable constitutional disturbance; the pulse is quite normal as to rhythm and frequency; the intellect though rather dull gives no aberration, and no paralysis exists; his only complaint is of deep-seated pain in the head. In appearance he is robust and healthy.

The record gives no additional evidences of his disease until September 1, save that the patient walks about the ward and in the yard compressing the head with both hands. The treatment pursued in the meanwhile has been local depletion from the head succeeded by counter-irritation; free evacuations from the bowels, together with the internal use of antimonials.

On the 1st of September it is recorded that the pain is increased, and the appetite begins to fail; the patient sits by his bedside holding with both hands to the head, and resting his elbows on the bed.

From this time the intellect became more and more obtuse; he ceased to complain of pain, and also to answer questions, though he murmured incoherently. The pulse diminished to fifty-five in the minute; and without other marked change he died September 5.

Autopsy seven hours after death.—On removing the scalp, a portion of the frontal bone about two inches by one in extent is completely denuded of periosteum, and irregularly carious through part of the external table. (There is no evidence of external injury, and previous inquiry had elicited no information bearing on this appearance.) The internal table, with the exception of increased vascularity, exhibits no mark of disease. The meninges are considerably congested.

Corresponding to this diseased bone, the dura mater is thickened to about one-eighth of an inch, and adherent to the bone below the section made in removing the skull-cap, and also to the brain beneath over a space about one and a half inches in extent. The subjacent brain is soft and almost diffluent in consistence; and this change involves not only the anterior surface of the left hemisphere, but the right is also softened. On cutting into the left lobe of the brain at this spot, an abscess of a size sufficient to hold a large black-walnut exists which is filled with thick, greenish-yellow pus; the walls of this abscess are of a brownish-white, with minute dark spots interspersed, being of a quite firm texture, while the two-thirds of the anterior portion of this hemisphere are remarkably free from blood, and quite soft; softening also is found involving all of the fornix and the posterior cornu of the right ventricle; the tissue of the brain in these situations admitting of being washed away by a stream of water poured gently on it.

The following case is inserted by permission of Dr. Metcalfe, in whose service it occurred. I saw the patient a few times, but possess no record of it. The hospital register is the source whence the case is taken:—

Case V.—*Ramollissement with Tumours in the Brain.*—George Jackson, æt. 25, New York, a clerk, entered Bellevue Hospital July 8, 1851.

The patient on admission was unable to give much account of his illness. He merely complains of severe pain in the back part of his head. His brother states that for two years past he has suffered from severe pain in the head, and has had occasional spasms of the extremities. Opium has been taken in large quantities to allay this distress. For several months he has been partially insane. During the night the patient is very restless, and wanders about the ward getting into the vacant beds.

He is much emaciated; his complexion sallow; pupils sluggish; pulse 80, and full; tongue coated white, and moist; bowels constipated. To take a purge of calomel and rhubarb.

14*th*. Patient has become more quiet; does not leave his bed; bowels not moved since admission; pain in the head undiminished. Pulv. purgans to be followed by an enema.

17*th*. Lies upon his back in a state of partial stupor from which, however, he can be aroused; no alleviation of pain; he has no contraction of the flexor muscles, but is continually rotating his thighs; pulse 90; no evacuation. Croton oil in doses of one drop every four hours until purged.

18*th*. Three drops of the oil opened the bowels freely. The patient's vital powers have been gradually declining since admission.

Died July 19, at 2 A. M.

Post-mortem 11 *hours after death.*—Body pale; discoloured in spots from decomposition. Dura mater separates readily from the brain. The vessels of the brain are not more than usually congested. On incising the cerebral mass, the puncta vasculosa are somewhat more numerous than usual; the tissue as first cut is of normal consistence, but the left corpus striatum is markedly softened. The ventricles contain no abnormal amount of fluid. At the anterior part of the fissure of Sylvius of the left side is a hard tumour of the size of a filbert surrounded by a softened portion of brain. To the left, and half an inch from this is another tumour of the same size; these tumours when cut present a yellow surface. At the anterior part of the left corpus striatum is a tumour like those described above, except that the yellow part in the centre is softened. The anterior part of the right corpus is completely

destroyed by softening; there is also a tumour imbedded in it like those of the left side, but not softened.

In the superior part of the right lung a few tubercles exist, and a portion of the lung exhibits the first stage of pneumonia. The other organs are healthy.

Case VI.—*Tuberculous Abscess of the Brain.*—Robert Graham, æt. 34, a native of England, by employment an engineer, was admitted August 29, 1851.

The patient is of a scrofulous habit. Has had the usual diseases of childhood. During the summer of 1835 had intermittent fever of a quotidian type which recurred in 1850. Five years since he had a cough which continued about three weeks, attended with slight expectoration, and on one occasion with hemoptysis to a slight extent. Neither cough nor raising of blood has recurred. During the winter of 1850 had an attack of acute articular rheumatism which lasted two weeks. In May, 1851, he entered this hospital with chronic rheumatism, complaining at the same time of a dull, heavy pain in the head, and imperfect command over his muscles. In the course of the past six weeks this weakness in the extremities has increased to partial paralysis, most marked in the right arm, the temperature of which also is considerably less than that of the left. The cephalalgia has continued with some variations since May.

When admitted on the present occasion, he complained of severe pain in the head with loss of muscular power on the right side. The expression of his countenance is dull and heavy and almost fatuous, though when addressed he is able to give a connected account of his feelings, &c. The eyeballs are quite prominent, the pupils sensible to light, equal, and of normal size.

During the day, he is inclined to doze, and lies with the lids partially open, exhibiting the white of the eye only.

On the right side of the neck is a scrofulous cicatrix; and the fourth metacarpal bone has been removed for disease of its structure. Pulse 60; tongue coated with a thick white fur; bowels regular; appetite moderate.

September 5. Pain in the head severe, otherwise no change. Blister to back of neck.

9*th*. Pain has somewhat decreased; appetite begins to fail; bowels regular; strength fails; has incontinence of urine.

10*th*. The control over the right arm is diminishing; it hangs almost powerless; and in addition loss of sensation is recognized. The head inclines towards the left shoulder.

11*th*. Last evening while attempting to cross the ward he fell in the effort.

12*th*. Is sitting by the bedside, his head inclined towards the left shoulder; the expression of countenance exhibits more anxiety. In some of the urine which has been collected, a copious deposit of earthy phosphates is found.

13*th*. Died comatose at 10 A.M.

Autopsy two hours after death.—On removing the skull-cap immediately beneath the left parietal boss, the dura mater was adherent to the skull over a space about three inches in diameter, and this so strongly that it tore from the rest of the membrane, disclosing a cavity filled with dirty, yellowish, semi-fluid, inodorous pus about two inches in diameter. The bone corresponding both on the external and internal surface is carious. In the vicinity of the abscess the dura mater is thickened, and where not torn up by the violence used in removing the skull-cap the membrane adheres. The abscess pene-

trates about an inch into the substance of the brain, and its walls are indurated in a marked manner. Over the posterior cornu of the left ventricle the cerebral tissue is softened in a moderate degree. The brain is rather anemic, the puncta vasculosa but few in number. At the base about two ounces of serum remains on the removal of the brain.

Heart flabby, weighs nine and a half ounces; the valves normal. Lungs, both were adherent to the costal pleuræ by ancient deposit of lymph; the adhesions being most extensive on the right side. At the summit of the left, numerous dormant sub-pleural tubercles are found. Emphysema of both lungs. Liver, the convex surface adherent to the adjacent peritoneum. Throughout its substance numerous deposits of tubercles exist; in some, the consistence is soft, in others, calcareous; the size varies from one and a half inches in diameter to that of a pea; in some of the largest, a depression on the surface indicates their presence; the sulcus over the largest deposit was three inches in length by two in depth. Weight of liver three pounds thirteen ounces. Spleen weighs sixteen ounces; beneath the capsule numerous flattened tubercles exist, and the whole substance of the organ is studded with minute tubercles.

Kidneys, the left weighs five ounces; the right four and three-quarter ounces; and in the latter a single tubercle is found.

ART. XI.—*Urinary Deposit of Epithelial Nuclei.* By JOHN BACON, Jr., M. D., Chemist and Microscopist of the Mass. General Hospital. [Read before the Boston Society for Medical Observation, February 2, 1852.]

THE presence of free epithelial nuclei in the complex urinary sediments attending those renal affections which are classed under the name of Bright's disease, is briefly noticed by several recent writers on the microscopic pathology of the kidney; but the occurrence of a distinct deposit composed of them has not, so far as I am aware, been described. In the early stage of a case of albuminuria, while the amount of albumen in the urine was very small, I have on two occasions observed sediments, which, under the microscope, consisted chiefly of spherical bodies, bearing a considerable resemblance to pus globules, and liable to be mistaken for them in a cursory examination.

These bodies are nearly or quite spherical; they vary little in size, the average diameter being $\frac{8}{1000}$ of a millimetre, or $\frac{1}{315}$ of an English inch. A few, which are granular on the surface, are as large as $\frac{1}{100}$ of a millimetre, or $\frac{1}{254}$ of an inch. Their surface is generally smooth, and they contain several (usually 8 or 10) large dark granules, with bright centres, but no nucleoli other than these. By transmitted light, they appear of a yellowish colour, and less transparent than pus globules, like which, they move freely in the fluid containing them, rolling over and over when it is agitated. Cold water, alcohol, and ether have no action upon them: in boiling water they

are more or less completely broken up. Neither acetic acid, nor dilute nitric or hydrochloric acids affect them.

A drop of acetic acid, added under the microscope, readily distinguishes them from pus globules, which it renders very transparent and finally dissolves, disclosing the contained nuclei, usually two or three in number. These nuclei are often visible in the globule without the aid of any reagent. Pus globules have a faint yellow tinge, appearing nearly colourless when seen singly. The surface is usually rough and granular. They are variable in size, and generally larger than the epithelial nuclei, averaging $\frac{1}{100}$ of a millimetre in diameter. The contained nuclei are about one-third as large as the globule: when single, the nucleus may reach half the size of the globule.

The deposit formed in the urine by the epithelial nuclei has some resemblance to a purulent sediment, but is darker and more readily diffused. In a strong light, it appears to the naked eye composed of innumerable brilliant points, which float freely in the fluid. In the first specimen examined, the nuclei were accompanied by a few pus globules, pavement epithelium cells, and exudation corpuscles. In the second specimen, four days later, a considerable deposit occurred, mainly composed of the spherical nuclei. Many similar nuclei were seen, inclosed in very transparent cells, scarcely larger than the nucleus. The free nuclei and the cells were often collected in groups and entangled in what appeared to be mucus. A few filmy membranous casts of the tubuli uriniferi, containing scattered nuclei, were observed; also pavement epithelium, and pus or mucous globules. Some of the epithelium cells appeared swollen and loaded with fat.

Each of these specimens of urine contained a very little albumen in solution, but more than the presence of a trace of pus would account for; and both deposited octohedra of oxalate of lime after standing some hours. Three weeks later, the urine of this patient was decidedly albuminous, and contained a considerable deposit, mainly composed of granular matter, often inclosed in fibrinous casts of the tubuli, or forming solid, opaque cylinders. There were also spherical nuclei, resembling those described above, but generally very granular and opaque; also, pavement epithelium and numerous oil globules. This sediment presents the characters common in albuminuria.

The tubuli of the kidney are lined in part by flat polygonal cells, forming a regular pavement epithelium, and partly by smaller cells, appearing as narrow transparent borders around their nuclei. These, which are at first spherical, gradually become flattened, a change of form usual in epithelium. Many nuclei occur, not inclosed in cells: they resemble so closely, in size and other characters, the spherical bodies found in the urine, that there is no reason to doubt their identity, especially as many nucleated cells were seen in one of the deposits, similar to the smaller ones which line the tubuli. The nuclei in the tubuli differ only in being more opaque and granular than those in the urine, which were probably thrown off in an immature state.

The spherical epithelial nuclei are probably of common occurrence (in small

numbers) in various urinary deposits: they might readily pass as pus globules, under the microscope, unless their abundance or other circumstances attracted particular attention to their distinctive characters.

ART. XII.—*Crystals of Hæmatoidin in the bloody fluid from a Tumour.* By JOHN BACON, Jr., M. D. [Read before the Boston Society for Medical Observation, May 3, 1852.]

IN old extravasations of blood, in the brain and other situations, it is not uncommon to find microscopic crystals, of a fine red colour, consisting of hæmatoidin, a modified form of hæmatin, the peculiar colouring matter of the blood. According to Virchow's observations, these crystals may be formed in from seventeen to twenty days after the occurrence of the extravasation. I am not aware that they have been seen in any recent effusion; but Kölliker observed the formation of crystals, which were probably hæmatoidin, within the blood corpuscles of some fishes.

In the bloody fluid obtained by puncturing a large cancerous tumour with an exploring needle, I have lately observed rhombic crystals, of a red colour, mixed with the cancerous elements, and with blood corpuscles, many of which were little or not at all altered. No coagula were seen in the fluid, which was submitted to the microscope about an hour after its removal from the tumour. It appeared to be simply a mixture of the cancerous juice with blood effused from cut vessels. The large proportion of cancerous juice probably hindered the coagulation of the blood.

The crystals seen in this fluid are rhombic tables, of a fine transparent crimson or ruby red colour, the thicker crystals being of course deeper in colour. Their edges are usually sharply defined, and the obtuse angles of the rhomb more or less rounded, giving them the most common form of the uric acid crystals deposited from urine. The largest tables measure about $\frac{1}{300}$ of an inch across the face, and considerably less than this in thickness.

In their microscopic characters, the crystals agree perfectly with those of hæmatoidin seen in old apoplectic effusions in the brain. Hæmatin has never been obtained in crystals. Hæmatoidin, which is doubtless derived from it, occurs in oblique rhombic prisms, and also amorphous; but has not been crystallized artificially. The crystals are usually tabular, and are liable to alter quickly. The chemical properties of these two bodies differ in some respects. No chemical reactions were obtained in this instance, and the evidence of the nature of the substance rests on microscopic characters alone. On re-examining the fluid some hours later, I was surprised to find that the crystals had entirely disappeared.

ART. XIII.—*On Inoculation and Vaccination.* By JESSE YOUNG, M. D., of Chester, Pennsylvania.

THE efficacy of vaccination, as a protection from variola, has now, after its general use for more than half a century, become well established by general observation and the most satisfactory experience; and, therefore, to disturb the public mind on the subject, by raising quibbling doubts and theoretical objections to it, can only be attended with evil consequences. Three and a half times fifteen years have gone by since vaccination has been in general use throughout, I had almost said, the civilized world, and nearly everywhere the results confirm the confidence reposed in it. Two observers only, Drs. Gregory and Cazenave, have set themselves up in opposition to this general sentiment. Dr. Gregory admits the efficacy of vaccination performed before the fifteenth year of age, as a protection from smallpox, but maintains that after that age "another law" comes into operation, and the economy acquires a susceptibility to a first attack of smallpox; and further, that revaccination after fifteen years is useless.

Dr. Gregory, it is evident, is a much stronger advocate for inoculation than for vaccination, and considers it *almost*, if not quite, as safe. Thus he tells us that "without ordinary precaution in *the choice* and preparation of subjects, not more than one in 500 will terminate unfavourably." What is meant by "precaution in the choice," is, to say the least, very conjectural, in cases in which we can have no choice if we resolve not to vaccinate. What physician could say to an anxious parent: "I will not inoculate your child, because there is some constitutional peculiarity about it that renders it probable it will not survive its effects?" This would only make parents more anxious to have it done, on account of the diminished violence of the inoculated disease. But, if Dr. G. had not been blinded by his predilection for inoculation, he ought to have acknowledged that, without *cautiously choosing*, and *without any preparation*, we have an agent equally effective as a preventive, and which does not terminate "unfavourably" not only once in 500 cases, but not once in ten times 500. Again, Dr. Gregory informs us that, "had not the discovery of Jenner interfered to interrupt its extension and improvement, inoculation would have continued to this day, increasing daily in popularity." No doubt it would, if nobody else had made the discovery of Jenner. But this is special pleading. He does not pretend to argue that it would ever have been brought to that mild, simple form of affection that Jenner's is; nor does it follow that its efficacy would have been increased in preventing those frequent secondary attacks, which have always existed, and which was first definitely described and named *varioloid*, about thirty years ago. At that time physicians never thought of vaccination being inferior to inoculation as a preventive from even this; nor proba-

bly had revaccination been thought of then, any more than reinoculation had. Since then, revaccination has been found advantageous, exactly as, in all human probability, reinoculation would have been found, if Jenner's discovery had not interfered with its "progress and improvement." Then, as the original vaccination has been found so perfect a substitute for inoculation, and equally, if not superiorly efficacious, ought we not to require something more than assertion, yea, positive *demonstration*, that revaccination is not equally efficacious with inoculation, before we give up the former for the latter? Probably three-fourths of those now living, and protected in any way, have been vaccinated; and how small is the proportion of deaths now, from smallpox, compared even with the period when inoculation was in vogue, and before vaccination was known? The average proportion of deaths was about *ten in* 500, or one in fifty. And now, let us go back to inoculation, instead of revaccination, and we shall keep constantly alive this hideous monster, propagating itself continually by its own poison, and if not destroying, at least subjecting to the risk of destruction, a large portion of the children that are born; because, it is well known that the varioloid, which will be the result of inoculation in about nine or ten per cent. of those protected by vaccination, *or by previous smallpox*, will, in all those unprotected, produce genuine smallpox. Previous to 1836–37 (see *Watson's Lectures*), Dr. Gregory appears to have been satisfied with revaccination. As quoted by Watson, his opinion *then* was, that "we have sufficient facts before us to state with confidence that it need never be recommended prior to the tenth year of life; and that the age best fitted for it is from the age of puberty to that of confirmed manhood." *Now*, however, he says, it is useless, although the evidence then was sufficient to warrant him in making the statement with "confidence."

The following cases will assist in showing that vaccination, when performed for the first time, after fifteen years of age, is equally effective in preventing smallpox, as when done at any other age:—

Case I.—In April, 1828, Mr. L., a journeyman paper-maker, unprotected, took smallpox from the rags (in the mill) which had been imported from Leghorn. He died on the twelfth day of the disease. He was unmarried, and lived with his mother and two brothers, none of whom were protected. His mother was over fifty years of age, and both brothers were past the age of puberty. As soon as the nature of the attack was ascertained, his mother and brothers were vaccinated, and all took the vaccine disease finely, and neither of them was affected with variola.

In this case, Dr. Justus Dunott, late of the city, now of Delaware State, assisted in attendance on the case, and also subsequently, in dressing and preparing the corpse for the last rites of humanity. The Dr. informed me that he had been vaccinated, and never had had smallpox; he entirely escaped infection. I do not recollect his informing me at what age he was vaccinated, but that is immaterial, if I understand Dr. Gregory's theory. If

done after fifteen years of age, when the "new law comes into operation," the vaccination affords no protection. If done before this law comes into operation, it is ineffectual afterwards, and inoculation must be practised to insure safety; but it was not ineffectual; and it thus furnishes an additional case to those above, of the complete preventive power of the agent.

Case II.—The writer of this article had been inoculated when some five or six years old. He is informed by the only person capable of giving correct information on the subject that he had it mildly, but satisfactorily to the attending physician. Twenty years subsequently, he was vaccinating some children, and after using the lancet for that purpose, he immediately used it to remove the point of a brier from the back of his hand; the consequence was that the vaccine virus took effect, and it ran through its regular stages. This, fortunately, occurred before the occurrence of the above case, and was most indisputably the preventive that saved him from an attack of smallpox. This revaccination too was after I was *twenty-five* years of age. I have on more than a dozen occasions revaccinated myself since, and never produced anything like a vaccine pustule. This case proves two points at present under consideration, viz., that revaccination after fifteen years of age was effective; and that Dr. G.'s new law operates in cases of inoculation so as to render it ineffective, just as it does after vaccination. Why, then, ought it to be preferred to vaccination? The only law in operation is the very natural one that the original affection was not *deep* enough to change the constitution (or whatever other more appropriate name it may be called by), sufficiently to protect, except for a few years, exactly as is the case in occasional cases of cowpock.

Case III.—Mr. C., also a journeyman paper-maker, took smallpox from imported rags in the mill. He was entirely unprotected. He died on the thirteenth day of the disease. His wife, aged 24 years, and infant, aged three weeks, were both unprotected; they were at once vaccinated, and both entirely escaped smallpox. Strange as it may appear, the only individual who took the disease from this case was a middle-aged gentleman who had been *inoculated*, although many adults who had been vaccinated in their minority, and were revaccinated, were equally exposed with this gentleman; and every one escaped.

Case IV.—Mr. E. was vaccinated in the 19th year of his age, for the first time, about thirty years ago. Some years afterward, he married a lady who had been inoculated in her youth, and had the disease satisfactorily. He and she became equally exposed to the contagion of smallpox. In a few days after this, she was delivered of an infant; and in a few days more, she became alarmingly sick, with all the symptoms of severe smallpox, as afterwards became manifest. Her infant was at once vaccinated, and escaped. Her husband, although equally exposed with herself at first, attended faithfully to her during her sickness, and escaped entirely.

Case V.—Mr. C. S. had been vaccinated *twenty-seven* years before he was attacked with smallpox, or rather varioloid. His sister, two years younger than he was (and they were both under five years old), was vaccinated at the time he was. She was now married, and had four children, all vaccinated, and was exceedingly alarmed, not only for her own safety, but that of her

children. I revaccinated her, and urged her to go herself, and to take her children and expose them, as she saw fit, to the chance of taking it. She did so, till she was perfectly satisfied on the subject, and not one of them took the disease; neither did she take the vaccine. The first had protected her twenty-seven years, and will doubtless continue to do so. Are we to suppose that any new law came into operation in the one of these cases (after fifteen), and not in the other? A law that is subject to about ninety or something more exceptions in one hundred cases, and that proportion extending through tens of thousands of cases (witness the revaccinations in the Prussian armies, a few years ago), cannot be a general one, but a very *particular* one indeed. Had this brother been revaccinated, he would undoubtedly have taken the vaccine, and would have escaped the varioloid, without any other presupposition than that he had not had the vaccine sufficiently originally, and that the sister had. In the family with this man was an apprentice, in the 20th year of his age, who had been vaccinated before he was old enough to recollect it. I examined the cicatrix on his arm, and assured him it was not necessary to revaccinate him; he was fully exposed to it, and yet never was affected by the exposure.

Case VI.—Some ten years ago, I attended a young man, in his 23d year, with a violent attack of what proved to be varioloid. His case was marked with all the precursory signs of violent confluent smallpox; but on the tenth or eleventh day, when the secondary fever ought to have appeared, all the symptoms were mild; no fever appeared, and in a few days more he was well. He had been vaccinated about twenty years before. He lay sick in the house of an aunt, aged near 40, who had been vaccinated in her early youth, and her two little children had recently been vaccinated. I examined the cicatrices in her and her children; assured her of the entire safety of them all; still, to allay her fears, I revaccinated them, but without any effect; they all escaped infection. In this instance, it protected the mother, after the lapse of between thirty-five and forty years.

Case VII.—An infant, aged seven months, not vaccinated, of Mr. J. B., contracted smallpox in Philadelphia, in November, 1851. A few days after returning home, it sickened, and an eruption appeared, which kept increasing in size until the third day, when I was requested to see it. The mother would scarcely believe that it was smallpox when informed of it. She had two other children, both unprotected. I at once vaccinated them, assuring her it was extremely doubtful about its doing any good. On the third day after, both appeared to have taken the vaccine. On the sixth day, in the youngest of the two the pustule appeared still to be progressing; but in the other it appeared to have come to a stand a day or two perhaps previously. He was complaining of headache and being unwell. I introduced more virus below the former pustule, hoping to urge it on; but it made no further progress, and in a day or two more he had a pretty copious eruption. But, after the eruptive fever subsided, his suffering was at an end, save only from the soreness of the pustules; he was lively, and about the house throughout the whole progress of the affection; no secondary fever attended, and he escaped almost unscathed. His little sister's arm did not appear to progress after the sixth day. In three or four days more, she had a slight eruption, and suffered much less than even her brother did. Here was a struggle between this giant and pigmy which we do not often have an opportunity of witnessing, particularly in the country, in this our day. I

watched them with much interest. These little red spots, the result of vaccination, maintained their ground, neither advancing nor receding, but apparently making a strong effort to pass onward through their natural stages, but withheld by some more powerful adversary. The two diseases passed off together; neither the vaccine nor the varioloid perfecting the scabbing process in either case, but the latter rather more perfectly in the boy than in the sister. The vaccine scabs were crumbly and of a light colour; the others were darker, but not of the firm, solid consistence they assumed in the infant. The mother of these children had had the vaccine disease when a child, and now escaped smallpox entirely. She had not been revaccinated. The father had not been protected in any way until he was twenty-five years old, and then he was vaccinated. He is now thirty-five. He entirely escaped all variolous affection, and remained well throughout.

Other cases might be referred to, but these alone are sufficient to satisfy the writer of the complete protection afforded by vaccination, let it be performed at what period of life it may; and also, that no new law comes into operation at or after the fifteenth year, with respect to it, that does not apply with equal force to inoculation. Experience, however, has shown that advantage does result from revaccination, because about nine or ten per cent. retake the disease. Now, how many cases are on record of persons taking smallpox after *re*vaccination? If one is to be found, I am not aware of it. Certain it is, I never have seen one, although numerous instances could be cited in which exposures to variolous infection had taken place. It is a well-established fact that persons who have had the genuine disease once will not take it the second time; also, that every person who can be subjected to it is subject to smallpox, if exposed to its infection; and if not subject to one, neither will they be to the other. These axioms, no well-informed physician, it is presumed, will controvert. Then if nine-tenths of all the vaccinated are thus secure, certainly it is much more philosophical to conclude that the remaining tenth (or thereabouts) who are subject alike to the effects of vaccination and of exposure to variolous infection, will be equally protected by the former as by inoculation (since it has protected equally the other nine-tenths), than to call up any new law into operation for the purpose of bolstering up the latter, although it may be a favourite. About the same proportion of persons who have been inoculated are subject to varioloid as of those who have been vaccinated; therefore, reinoculation is equally necessary with revaccination, to insure entire safety. It follows certainly, then, that the probabilities of a like safety, resulting from a reoperation of whatever kind, are entirely equal; and then it resolves itself into a choice between the production of a most dangerous, noisome, filthy disease, from which very many deaths result, and a mild, benign affection that rarely sickens, and that, I had nearly said, never kills.

Since writing the above, I have conversed with Dr. William Gray, of Chester, one of our oldest practitioners, on the subject of Dr. Gregory's new law, and his experience and observations concerning vaccination and revaccination. He says he has no belief at all in the new law; that he is an advo-

cate for revaccination, and has performed the operation hundreds of times in adults and in minors; that he finds about one in ten or a dozen take the disease effectually; and, to test that matter, he has taken the scabs thus obtained, and used them with the most satisfactory results; that he has not known any person have smallpox after revaccination; that he has full faith in vaccination at any age beyond fifteen, or before it; and that his confidence in it increases as his observations and experience increase.

I have no hesitation in saying that all the physicians of our county agree entirely in the above opinions; and that there is not one among them who could be prevailed upon to inoculate instead of revaccinate, at any age. No occurrence of whatever kind has taken place here to shake the confidence of the people, nor the physicians, in its efficacy. On the contrary, all experience has had directly the contrary effect. Twenty-five or thirty years ago, it was distrusted very much by the populace, and nothing but the firmness of the physicians prevented inoculation being extensively resorted to; now, all this has subsided, and I presume, from general knowledge on the subject, that it would require weighty arguments to induce any of the intelligent part of our community to submit to inoculation. In this quiescent state of public feeling, how ridiculous would it be to disturb it, without the most convincing evidence of necessity for so doing. Let but the physicians begin to talk about the necessity of inoculation at or after fifteen years of age, and farewell to all confidence in vaccination. I trust, however, that such an accumulation of evidence will be produced, now that the question has been raised, as will prove that vaccination is no humbug, and that all the physicians of the last fifty years are not the dupes which a contrary conclusion would prove them to be. With the view of contributing a mite towards this result, the foregoing article has been penned.

Chester, *May* 31, 1852.

Art. XIV.—*Case of Hermaphrodism, involving the Operation of Castration and illustrating a new principle in Juridical Medicine.* By S. D. Gross, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

The following case, which came under my observation in 1849, will, if I mistake not, prove both novel and interesting to my professional brethren. So far as my information extends, there is no account of any operation for a similar object upon record.

The subject of the case, at the time I first saw her, was three years of age, having been born on the 10th of July, 1846. She had always, up to this

period, been regarded as a girl, and had been so pronounced at her birth by the accoucheur. At the age of two, however, she began to evince the tastes, disposition, and feelings of the other sex; she rejected dolls and similar articles of amusement, and became fond of boyish sports. She was well-grown, perfectly healthy, and quite fleshy. Her hair was dark and long, the eyes black, and the whole expression most agreeable. A careful examination of the external genitals disclosed the following circumstances: There was neither a penis nor a vagina; but, instead of the former, there was a small clitoris, and, instead of the latter, a superficial depression, or *cul-de-sac*, covered with mucous membrane, and devoid of everything like an aperture, or inlet. The urethra occupied the usual situation, and appeared to be entirely natural; the nymphæ were remarkably diminutive; but the labia were well developed, and contained each a well-formed testis, quite as large and consistent as this organ generally is at the same age in boys. Her hips and chest, thighs and superior extremities, were perfect.

It being apparent, from the facts of the case, that it was one of malformation of the genital organs usually denominated hermaphrodism, the question occurred whether anything could or ought to be done to deprive the poor child of that portion of the genital apparatus which, if permitted to remain until the age of puberty, would be sure to be followed by sexual desire, and which might thus conduce to the establishment of a matrimonial connection. Such an alliance, it was evident, could eventuate only in chagrin and disappointment, if not in disgrace, ruin of character, or even loss of life. Certainly, impregnation could never occur, and even copulation could not be performed, except in the most imperfect manner.

I need not say that I gave the subject all the consideration and reflection that I was capable of bestowing upon it. I was deeply sensible of the responsibility of my position. A new question, involving the rights and happiness of my little patient, and the dearest interests of her parents, was presented to me. I examined the case in all its bearings and relations—moral, physiological, and juridical; I appealed to the records of my profession for a precedent, and I sought the counsel of medical friends. The parents were anxious for an operation; they were intelligent, kind, and tender-hearted, and were willing to sacrifice everything for the welfare of their child. Their only object was to save it from future suffering and misfortune. My own mind was made up; but, before I proceeded to take any further steps, I determined to consult my excellent friend and colleague, Professor Miller, in whose judgment and integrity every one who knows him has the utmost confidence. He saw the child and examined her. He viewed the case, as I had previously, in every possible aspect, and his conclusion was, that excision of the testes was not only justifiable but eminently proper under the circumstances; that it would be an act of kindness and of humanity to the poor child, standing as she did towards society in the relation, not of a boy or a girl, but of a neuter, to deprive her of an appendage of so useless a nature; one which might, if

allowed to proceed in its development, ultimately lead to the ruin of her character and peace of mind.

Backed by such authority, I no longer hesitated what course to pursue. I performed the operation of castration on the 20th of July, 1849, aided by my pupils, Dr. D. D. Thomson, of this city, Dr. Greenburg R. Henry, of Burlington, Iowa, and Dr. William H. Cobb, formerly of Louisville, now of Cincinnati. The little patient being put under the influence of chloroform, I made a perpendicular incision, about two inches in length, into each labium down to the testis, which was then carefully separated from the surrounding structures, and detached by dividing the lower part of the spermatic cord. The arteries of the cord being secured with ligatures, the edges of the wound were brought together with twisted sutures, and the child put to bed. Hardly any blood was lost during the operation. About two hours after, the left labium became greatly distended and discolored; and, upon removing the sutures, the source of the mischief was found to be a small artery, which was immediately drawn out and tied. No unpleasant symptom of any kind ensued after this, and in a week the little patient was able to be up, being quite well and happy.

The testes were carefully examined after removal, and were found to be perfectly formed in every respect. The spermatic cords were natural.

I have seen this child repeatedly since the operation, as her parents live only a few squares from my office, and have carefully watched her mental and physical development. Her disposition and habits have materially changed, and are now those of a girl; she takes great delight in sewing and housework, and she no longer indulges in riding sticks and other boyish exercises. Her person is well developed, and her mind uncommonly active for a child of her years.

I would fain present this example as a precedent in similar cases. The reasons which induced me to recommend and perform this operation in the instance before me have been already mentioned, and now, after a lapse of three years, I have no cause to regret the undertaking, or to think that I acted harshly and inconsiderately. If the records of surgery and medical jurisprudence are silent upon the subject; if the learned doctors of the Sorbonne, the fathers of the Royal Academy of Paris, and the Fellows of the Royal College of London have left us no precepts; and if the experience of the present day furnishes no examples; all this, and much more, does not prove that the practice here recommended is not perfectly just and proper, and vindicated upon every principle of science and humanity.

A defective organization of the external genitals is one of the most dreadful misfortunes that can possibly befall any human being. There is nothing that exerts so baneful an influence over his moral and social feelings, which carries with it such a sense of self-abasement and mental degradation, or which so thoroughly "maketh the heart sick," as the conviction of such an individual that he is forever debarred from the joys and pleasures of married life, an

outcast from society, hated and despised, and reviled and persecuted by the world. Nothing but the most perfect resignation, and a well-founded confidence in the mercy and justice of the Creator, can render the lot of such a being at all supportable.

The subject of doubtful sex is one which has always, in all ages, and in all civilized countries, excited the warmest attention of the physiologist, the philosopher, and the medical jurist. Under the vague and ill-chosen name of hermaphrodism, invented at an early period of the world, was described every imaginable form of malformation of the genital and urinary organs, most dissimilar in character; and, consequently, were calculated to mystify and mislead the public mind. A class of beings was imagined, combining, it was said, the qualities of the male and female in the same individual, and capable of performing, within itself, the generative functions. The idea that such a union might exist, had its origin, no doubt, in fable. The reader of mythology need not be reminded here of the story of Hermaphroditus and the nymph Salmacis; how the former so ungallantly resisted the charms and entreaties of the latter, and how, finally, through the interposition of the gods, their bodies were united into one. The ignorance of medical men, the conceit and folly of legislators, and the mercenary conduct of many of the subjects of this variety of congenital malformation, served afterwards, in no small degree, to perpetuate the error thus engendered, and to transmit it, in nearly all its ancient force, down to a comparatively recent period. Modern researches had done much to dissipate these absurdities, when the publication, in 1836, of the great work of Mons. Isidore St. Hilaire, entitled *Histoire des Anomalies de l' Organization*, set the long agitated question forever at rest, by demonstrating, in the most undeniable and conclusive manner, that there is no such thing as hermaphrodism, in the vulgar acceptation of the term; or, in other and more philosophical language, that the union of perfect male and female organs in one and the same individual, is an anatomical and physiological impossibility.

Much prejudice, leading often to the most cruel persecution, existed against this class of individuals among some of the nations of antiquity. The Athenians had a law, providing that all hermaphroditic children should be consigned to the flame; while the Romans ordained that they should be boxed up, and thrown into the sea. In more recent times, all individuals of this description were excluded from holy orders, and from the office of judges, "because they were ranked with infamous persons, to whom the gates of dignity should not be opened."* Much of this prejudice has, fortunately, disappeared, under the benign influences of Christianity and civilization; but much still remains, and must continue in operation, as long as the human mind retains its present organization. If hermaphrodites are no longer burnt and drowned, stoned and persecuted, and mocked and reviled, they are uni-

* Beck's Medical Jurisprudence, vol. i. p. 106, fifth ed. 1835.

versally regarded with a degree of prejudice, amounting generally to positive aversion; and as unfit for any offices of dignity, divine, legal, or political. If such be the fact, and no one can doubt it, every suggestion, calculated to ameliorate the condition of this unfortunate class of beings, by depriving them of their only incentives to matrimony, and thereby dooming them to everlasting celibacy, should be hailed as a valuable contribution to the science and humanity of the present age.

[We have willingly given place to the above communication, not only because it is a very interesting and curious one, but also from the respect we entertain for the opinions of its distinguished author; but in doing so we may be allowed to say that we cannot feel satisfied with the soundness of his argument in the present instance, and that while we will leave the discussion of the subject to those more competent to the task, we may add, that it appears to us the administration of prussic acid to terminate the sufferings of those afflicted with malignant disease, or who have received severe and irremediable injuries, might be justified by the same train of reasoning.—Editor]

Art. XV.—*Case of Ischuria Renalis.* By Jas. McGrath, M.D., of Pittsburg, Pennsylvania.

In the autumn of last year the following case occurred in my practice, which I have thought not unworthy of notice:—

On the evening of Tuesday, September 9, I was requested to visit Mrs. G——th, a married lady, about twenty-three years of age. I found her sitting up in bed, her head supported by a female friend, her face was of a pale livid or sallow colour and seemed œdematous, her eyes were suffused, her lips colourless, her whole countenance was expressive of severe suffering and great anxiety, her pulse so feeble as to be barely perceptible. I was told she had fainted several times and had something like convulsions; that she was unable to lie down from the feeling of weight about her heart, which seemed to suffocate her. I administered some aromatic spirits of ammonia in water to her, as she disliked wine, it causing nausea. Having resumed my inquiries, I ascertained that when growing up she was subject to occasional fits, that her mother suffered from frequent epileptic attacks, that she herself was now in an advanced state of pregnancy (she thought about eight months so), that some three months since she felt ill and had herself blooded, which relieved her then. She pressed me to take blood from her now, as she was satisfied it would again relieve her as before; this, however, I was unwilling to do until I had fully satisfied myself of the nature of her illness, and of its propriety. On examining the chest, loud mucous râles only were audible. The heart's action was rapid, with feeble impulse; the sensibility of the skin was so morbidly increased as to render an examination almost impossible, the slightest touch causing severe pain. I was informed that she had several loose discharges from the bowels during the day, but had passed no water from the

previous Sunday, though her desire to do so was urgent; that she takes some drink, but for several days past no food would rest on the stomach. There is nausea and occasional retching; she complains much of the unpleasant bitter taste in her mouth, of the sensation of weight and dull pain in her head, and the general soreness of her flesh. I now introduced a catheter to relieve the bladder, but, to my surprise, it contained not a drop of urine. I now became conscious of my patient's danger; here was total suppression of two days' standing, and, in her present advanced period of gestation, with a tendency to convulsive fits, or epilepsy, the present distressing symptoms were but the precursors of others more alarming if not timely relieved. She told me that, for a long time past, she has remarked frequently the very small quantity of water she had passed, and the severe pain it sometimes gave her, to relieve which she has tried various remedies, such as sitting over the vapour of hot water, drinking infusions of various herbs recommended to her by female acquaintances; latterly, however, her stomach will not bear them, nor anything, except tea or water. To increase her misery, if possible, she is tormented with an intolerable itching of the pudenda, followed or rather accompanied with burning heat and soreness. This I found to depend on a vesicular eruption, within and around the vagina and labia. Though the entire surface of the body is tender and painful to the touch, yet over the right kidney and along the ureter of that side the pain on pressure seems particularly acute. I felt somewhat satisfied that the cause of the suppression was most probably confined to the right kidney, and that the left was affected through sympathy. Conceiving the paralytic state was caused by congestion of the Malpighian bodies, I determined to comply with her wishes in abstracting blood. I took twelve ounces from the arm with considerable relief to the precordial oppression, and had a sinapism applied over the loins, with flannel cloths wrung out of hot water applied to the vulva, and ordered the following medicines: R.—Pil. hydrarg. ℥ss; Calomel gr. vi; Ext. hyosciami gr. xij. M. Ft. pilul. xij.—i. 3 dis horis cum cochleare amplum misturæ sequeatis. Infus. digitalis ℥vijss; Sp'ts etheris nitros ℥ss. Mix.

At my morning visit, I found the stomach very irritable; she had slept a little but was evidently delirious, inquiring after things and speaking of persons in a manner altogether different from her usual one; she, however, replied to my questions connectedly; her bowels had been troublesome, but no urine had passed; the nausea and vomiting were particularly distressing; she thought the pain in her head not so severe since the bleeding. I now had mustard applied to the epigastrium, and cupping-glasses over the loins, the medicines to be continued with tea or barley-water for drink, sparingly. At my evening visit, found diarrhœa had set in; the stomach was not so irritable, but the head symptoms were more marked; she appeared less sensible to her state, and fast verging towards coma. I was compelled to discontinue the pills owing to the diarrhœa; as I feared to give any preparation of opium in combination with them, I ordered a sinapism to the nape of the neck, and the following mixture: R.—Mist. camphoræ ℥vijss; Acet. kali ℥ss; Tinct. scillæ ℥ij; Tinct. digitalis ℥j; M. Ft. cochl. magn. 2 dis horis, with the infusion of green tea for drink. I was anxious to try the warm bath, but her advanced state of pregnancy forbade its use. We continued, however, the hot fomentations over the pubis. After a night of great and increasing restlessness, with delirium lapsing into stupor, from which she was carefully kept roused, I had the satisfaction to find, at my morning visit, that about an ounce of high-coloured urine had been voided with considerable pain. In the course of the day the secretion became re-established, and as the urine be-

came abundant all the more urgent symptoms began to disappear, leaving my patient in a state of extreme debility, from which she slowly rallied up to the 26th, when I was again summoned in haste. I found her sitting on a chair, her face slightly flushed; she complained of pain in her back, shooting round the abdomen; no uneasiness from her water beyond the frequent desire to pass it, the bowels natural. While speaking with her a paroxysm of pain occurred, which plainly indicated that the first stage of labour had commenced, though she assured me she had not got beyond the seventh or eighth month; on examination, I found the os uteri dilated sufficiently to allow me to ascertain the position of the child, which being natural, and this a first labour, I left for some hours, having first quieted all her apprehensions and fears. On my return, I found she was rapidly approaching the second stage, and, after a stay of some two hours, she was delivered of a female infant, which, from its small size and imperfect state, could not have arrived beyond the seventh month; the infant, however, with its mother, I am happy to say, continued to do well.

This case, to the majority of your readers, may present nothing remarkable, yet to me it did afford more than passing interest, inasmuch as we, I must say, fortunately seldom meet with so prolonged a case of complete suppression. I am aware of cases being recorded where recovery has taken place after a period of seven days' duration, yet taking into account the unfavourable circumstances under which my patient was placed, I think the case not wholly uninteresting.

Pittsburg, *February* 12, 1852.

Art. XVI.—*On the Anemia of Pregnant Females.* By Geo. Martin, M.D., of Delaware County, Penn. (Read before the Delaware County Medical Society.)

Every obstetrical writer mentions plethora connected with pregnancy as the source of some of those diseases, which, when they occur, so often compromise the safety of both mother and child.

Much has been said about it, and so little about anemia, that it has been and is yet considered by some practitioners as the almost constant complication of pregnancy. The bare announcement of a poor woman being pregnant, has been to them clear evidence that she was plethoric, and a sufficient warrant for the use of the lancet; and to so great an extent has this been carried, that many females, even at the present day, think that they cannot be delivered of a healthy child, and themselves do well, if they have not been bled once or twice before the pains of parturition come on. Moreover, the physician who has been called upon to perform the operation, if he should chance to think differently, and have the hardihood to stand by his opinion, will find, in the event of a misfortune occurring either to the mother or child, that the

blame will rest upon his shoulders; and there will be persons, and those not a few, who will not hesitate to tell him that the result would have been otherwise if he had not refused to bleed.

Now this is certainly wrong; for though no one will deny that plethora does exist in some instances, yet it does so much more rarely than anemia; and I shall here endeavour to show that most of these cases in which bleeding is resorted to, arise from an impoverished blood, and that the use of tonics and even of the chalybeates would be followed by the happiest results.

Are the nausea, vomiting, and depraved appetite that are so common, and occupy so large a portion of gestation, symptoms to lead to suspicion of danger from an over supply of nutriment? On the contrary, if such derangements of the digestive apparatus were met with at any other time, would we not immediately try to relieve them, for fear that debility, emaciation, and even death might ensue? All medical experience points to such a course; and why should not the result be the same in one case as well as the other. There surely is nothing mysterious hanging over the pregnant female that will reverse all our known laws of the animal economy.

It has been said that the stoppage of the menstrual secretion counteracts these influences, and produces the supposed plethora; but this can hardly be, for the amount of nutriment drawn from the blood in forming a highly organized living being weighing from seven to eight pounds, with two to three more of appendages, must far exceed the amount required for nine catamenial periods.

The symptoms calling for depletion, as they are commonly described, are headache, vertigo, flushes of heat, depression of spirits, a full, frequent pulse, a feeling of fulness and pain in the pelvic region, and a tendency to hemorrhages in various parts of the body. Now it will be easy to show that many of these are often produced by anemia; and though bleeding may relieve some of them for a time, they will be sure speedily to return, as the remedy only aggravated that condition of the circulating fluid in which they originated; and to this may be attributed that necessity of a frequent resort to the lancet which many practitioners will tell us they have found. Anemia also has a strong tendency to derange the circulation; for when the blood is in this condition, it does not carry with it that stimulus which is necessary to excite the capillaries to do their part, and congestion will frequently ensue.

The nervous excitability, too, is greatly increased by this condition of the system, and this is the common cause of simple neuralgia, which it may produce in two ways: first, by its not being stimulating enough to the nervous centres to maintain a healthy action in them; and secondly, by its not affording the different organs a proper amount of good plasma to keep them in a healthy condition, and they demand through the nervous system a better supply. This also is the reason of that frequent, easily excitable, and sometimes full pulse which is so often met with in pregnancy and anemia; for the heart here, in endeavouring to answer the demands made upon it, acts much

more rapidly than it does in health, and as these wants are augmented in proportion to the amount of labour that is to be performed, we shall find that the least exertion will be followed by a great increase in the number of pulsations. During gestation, this excitability is manifested to a great degree, though in this case it is not to be attributed solely to the impoverished blood, for the nervous disturbances created by the changes wrought in the womb after conception tend considerably to increase it.

If we investigate the manner in which the above symptoms are produced, we shall find when they may be considered as evidences of plethora and when not. To begin, we will take the pain in the head, which, when not sympathetic with some other disorder, often arises from neuralgia, sometimes from congestion at others from irritation, and occasionally from inflammation. Now, I have before stated that anemia is the common cause of neuralgia, and I have shown that it strongly predisposes to congestion, which will be liable to take place whenever there is any excitement or irritation of the brain; and this may occur in any condition of the system. Yet, the result will be very different in the two cases; for when plethora exists, we shall have inflammation immediately following the congestion; whereas, in anemia, it may exist for some time without it. And this is very true in pregnancy; for here we sometimes have it lasting for weeks; producing much suffering, and at times followed by the most disastrous results, without our being able in many cases to discover a symptom of inflammation during life, or a trace of it after death; and when it does occur, it will generally be found to have arisen from some direct injury which the overloaded vessels have inflicted upon the tissue of the organ. Vertigo generally arises from it, as does also the disposition to hemorrhages, when they do not occur from the vitiated blood relaxing the vessels, and thereby obtaining a free exit; and the sense of pain and fulness in the pelvic region must be attributed to the same cause affecting the womb.

The flushes of heat and other nervous symptoms not unfrequently met with proceed from the excitability before treated of as arising from a deficient plasma; and as this must necessarily have a great influence over the moral functions, too, it will account for that depression of spirits so common in gestation.

From the foregoing facts, it will require no force to arrive at the conclusion that the symptoms of anemia greatly preponderate in the above; and to them I shall add a few others which will serve to place the subject in a still clearer light. Thus, the face often appears somewhat bloated and discoloured, the blood, when drawn, frequently presents the buffy coat without there being the least evidence of inflammation existing at the time; the carotids throb, and at times even a partial loss of vision ensues. Now, these are all known as symptoms of anemia; and the latter has been frequently produced by an extensive hemorrhage. In an analysis of the blood by Andral and Gavarret (for the account of which I am indebted to Caseaux's work on Midwifery), 32

cases out of 34 were found in which the globules were below the healthy mean, in 6 of which they ranged from 120 to 125, and in 26 from 95 to 120; they also found for the first six months the fibrine in the 34 cases was uniformly below the natural quantity, varying from 1.9 to 2.9; while during the last three months it exceeded it, ranging from 2.9 to 4.8, and averaging nearly 4; this, therefore, gives the true reason for the buffy coat; and we here have 32 cases out of 34 in which anemia was proved to exist.

The treatment of this affection should, of course, consist of tonics, the best of which are the ferruginous preparations, a nutritious diet, fresh air, and moderate exercise; the nervous symptoms, when excessive, should be allayed by the antispasmodics and opiates; and when congestion occurs, it will generally be speedily relieved by cold applications to the part, counter-irritants and rest, with a little aperient medicine if the bowels should be constipated; and perhaps it may not be out of place to mention here that, when the brain is the seat of engorgement, the best mode of applying the cold to it will be by pouring water of a low temperature in a steady stream upon the head, care being taken to watch the patient, that she be not too much prostrated thereby. It would be easy to cite numerous instances in which the above treatment has relieved headache, vertigo, and even convulsions, in some of which after depletion had been fairly tried and failed; but I trust enough has been said to show the real character of the complaint, and with a few words upon the injuries that a false diagnosis may inflict upon the child, I shall bring this subject to a close.

It is an acknowledged fact that tubercles and scrofula often originate in a depraved condition of the system, and as the vital organs of the fœtus at the time of their formation are undoubtedly in their most delicate condition, and very susceptible of change, may not the imperfect plasma, which is all the parent can furnish out of her impoverished blood, lay the foundation for these diseases, which only wait for some exciting cause to call them into action? And if this be the case, how highly important it is, both to the mother and her offspring, that the true nature of the affection be clearly understood, and the proper remedies at once applied.

Art. XVII.—*On Neuralgia of the Scalp.* By J. Brooks, M. D., of Pittsburg, Pennsylvania.

There is a class of diseases that may be fairly ranked among the *opprobria medicorum*, if intense suffering on the part of the patient, with very little relief from our art can fairly entitle any disease to that "bad eminence." I allude to that anomalous form of disease called neuralgia of the scalp. It may show itself in pain so intense and persistent as to imbitter the whole life of the patient, or it may exist only in its frequent phase of dizziness.

The last term, however, is quite too mild to express the sad annoyance it causes the patient. The sensation of constantly falling is hard to endure, and in many cases it totally incapacitates the sufferer from pursuing his occupation, even if it does not expose him to the absolute risk of life. In the absence of any satisfactory treatment to be found in the books, I have been forced to look around for some remedy; and, so far as seven or eight cases can establish confidence in a means of cure, I have no hesitation of announcing one. Be this as it may, I now encounter these most vexatious cases with totally different feelings from those which formerly I approached them, as I have yet to find a case where the remedy has failed. In July last, I submitted to it in my own person, which I may be allowed to adduce as a proof of my sincerity if not of my intelligence. Being fully persuaded, therefore, of the value of the remedy, and anxious that others may derive the same benefit from it, I submit the following cases for the consideration of the profession. I give them only for what they are worth. I have no disposition to mistake or exaggerate, and if in other hands the practice proves as successful as it has in mine, I shall be abundantly grateful.

Not to weary your readers with the length of my exordium, I shall narrate, as concisely as possible, the first four cases in which I have tried it, wishing others may be equally fortunate :—

Case I.—On July 1, 1846, I was called to visit a young lady who was labouring under slight pneumonia, which readily yielded to bloodletting. I found, however, that for two years she had suffered extremely from neuralgic pains of the posterior region of the head, extending to the vertex, abdominal muscles, and pelvic viscera. There was tenderness of the cervical, dorsal, and lumbar vertebræ. In defecation, she endured the most intense pain, which very naturally she referred to piles. The disease not yielding to the usual remedies, I divided the sphincter ani, with the effect of completely relieving so much of her suffering. What remained now was intense pain of the whole scalp. I ran through every general and local treatment that occurred to me, till it would be easier to tell what I did not rather than what I did. Nothing, however, was of the slightest avail but laudanum, which procured her temporary relief in five-drachm doses. Wearied out with the worthlessness of all my remedies I was strongly tempted to abandon the case to nature; but it occurred to me that dividing the branches of the occipitalis major might probably afford relief. In February, 1847, I made incisions on both sides, about two inches long and down to the bone. Immediately and entirely my patient's sufferings were relieved. The wounds were filled with lint till suppuration became established, and caustic potash was occasionally and cautiously applied for six weeks to keep it up. The issues were then suffered to heal. From this time I had no difficulty.

Three caustic issues were established over the course of the spine and kept open for four months. The patient gained flesh and strength till her health became perfectly re-established.

Case II.—A puddler in an iron works of this city had suffered for years from pains in the back of his head, occasionally so severe as to incapacitate him from work. Every known remedy had been tried with only very partial relief.

Even when comparatively well, and at his work, he was obliged to wear a woollen cap, as the slightest draught of cold air brought back his old sufferings. In September, 1847, he consulted me, ready to submit to any treatment that promised relief. As in this case only one side was affected, I made an incision about two inches in length and down to the bone. The wound was treated with caustic from time to time for three weeks, and then suffered to close. The cure was complete.

Case III.—A gentleman, of sedentary habits, had suffered from neuralgia of the head and back for fifteen years, which had so much impaired his general health that he became unable to attend to any business. In August, 1848, I laid open the scalp, down to the bone, two and a half inches in length. He himself applied caustic to the wound from time to time, so as to keep up suppuration for two months.

Three issues were established over the spine, which discharged for three months. He informed me, about six months since, that he enjoyed excellent health.

Case IV.—A glassblower, thirty years of age, consulted me in August, 1848, on account of dizziness, which had troubled him for a year or more. He stated that it occasionally disabled him from attending to his work, as he was in danger of falling off the bench, on which glassblowers walk when at work. I frankly told him that I could not *cure* him without dividing the nerves of his head, but that other means would afford temporary relief. Forced, if possible, to go on with his work, he chose the latter; resolving at some future period, if he did not get better, to submit to the operation.

Concentrated aqua ammonia was applied to the back of his head and neck, and morphine given, which so relieved him that he was able to pursue his business through the season of blowing, which continues about ten months. He went to the country, remained two months, and returned in September, and commenced work. In a very short time, however, he was obliged to give it up, the dizziness becoming worse than ever. An incision was made over the posterior and upper portion of the right parietal bone, Oct. 10, 1849, which relieved the dizziness immediately. The wound was filled with lint, a bandage applied, and the next day he did a full day's work. He improved in flesh and continued well till May, 1850, when again he was seized with dizziness. On the 5th inst. the other side was operated on, the wound treated as before stated; and, up to this time, he has had no return of the disease.

Pittsburg, *May*, 1851.

Art. XVIII.—*Treatment of Acute Rheumatism with Lemon-Juice.*

By Robert H. Cummins, M. D., of Wheeling, Virginia.

It is now about two years since Dr. Owen Reese, of Guy's Hospital, first experimented with lemon-juice in acute rheumatism. Since that time it has been extensively used by many of our English brethren, and the success that has attended its use has established it perhaps as the *best* remedy in that disease.

Our experience with lemon-juice is limited; but, under its influence, we believe the excited action of the heart and arteries subsides; the articular pains abate; the urine attains its healthy colour, quantity, and chemical pro-

perties; the temperature resumes its natural standard, and all the symptoms of the disease are replaced by the conditions of health more speedily and effectually than under the use of any other remedy we have ever seen employed.

As illustrative of this, we subjoin the three following cases. They are selected from a number of others, because the disease, from its complication, in each assumed a different aspect. The first case was one of simple uncomplicated rheumatism; the second was complicated with endocarditis; and the third with pericarditis.

Case I.—Mr. B. F., aged forty, of nervo-lymphatic temperament, sent for me March 1, 1852. He had complained of pain and stiffness of his limbs for three days previously, and he referred his sickness to exposure on the ice. I found him labouring under all the symptoms of acute rheumatism in an aggravated degree. His tongue was heavily coated with a yellow fur; pulse 100, strong and full; urine scanty, high coloured, and depositing a copious lateritious sediment—tested by litmus paper, it gave a strong acid reaction; skin dry and hot; articular pains very severe, affecting the wrists, fingers, ankles, and knees. In addition, the whole muscular system was stiffened, and gave rise to pain when he attempted to move. From my former experience with this disease, I anticipated in this case a protracted and painful spell of sickness. The hospital reports, detailed in the *London Lancet*, abounded in favourable notices of Dr. Rees' plan of treatment in rheumatism by lemon-juice. And inasmuch as I felt dissatisfied with the remedies ordinarily employed, I resolved in this case to give it a trial. The treatment was commenced by a cathartic of rhubarb and calomel. By evening this had operated three or four times freely. At bedtime, I ordered twelve grains Dover's powder and frictions with brandy and salt to the affected parts.

2*d.* Patient passed a painful and sleepless night; this morning is no better; symptoms same as yesterday; directed lemon-juice, two tablespoonfuls in a little sweetened water every three hours. Evening, no material change.

3*d.* Mr. F. passed a better night; slept two or three hours; this morning has less pain, and can move a little in bed. Swelling and redness of the articulations somewhat abated; pulse 90, strong; skin moist; tongue beginning to clean; urine more abundant, less highly coloured, depositing less sediment. Continue lemon-juice and frictions. Evening, symptoms all improving. Continue remedies.

4*th.* Patient slept pretty well; says he feels much better; skin perspiring; tongue cleaning; pain and swelling of the articulations subsiding; pulse 80; urine nearly healthy in quantity and appearance; tested by litmus, the acid reaction seems natural. Continue lemon-juice and friction as before. Evening, Mr. F. says he is still better; complains loudly of the lemon-juice; says the taste is becoming almost intolerable. Continue it notwithstanding.

5*th.* I find Mr. F. with a cool and moist skin; complaining but little of pain, and able to move himself in bed; tongue nearly clean; pulse 70, soft and regular; urine natural in colour and quantity, depositing no sediment; redness and swelling of joints nearly gone; appetite returning; no movement of the bowels since first; ordered rhubarb and magnesia. Continue lemon-juice every four hours. Evening, purgative operated three times; patient has been sitting up; says he is well. The pains have subsided, and stiffness only remains in the affected parts. Discontinue all medicine during the night.

6*th.* Mr. F. saluted me this morning with an inquiry as to what he might eat; says he feels well; slept well; complains only of stiffness and weakness;

pulse, skin, tongue, and urine natural; appetite good; ordered animal broth for diet; lemon-juice every six hours.

7*th.* Patient walks about the room; no motion in the bowels since the 5th; order rhubarb and magnesia; lemon-juice three or four times a day; oysters, with coffee and milk-toast, for diet.

8*th.* Patient improving.

9*th.* Mr. F. convalescent; and to-day walked to his business house; dismissed him cured.

Remarks.—The cause producing the rheumatism in Mr. F., the mode of its accession, and the symptoms existing when I was first called to see him, all indicated a severe attack of that malady. I confess I expected to have a tedious spell of sickness, and a troublesome patient to treat. The disease was not complicated during its progress by any heart affection. It will be observed, that I used few remedies, and none of those having any direct curative effect in rheumatism but the lemon-juice. This I employed in large and frequent doses, and I acknowledge I was astonished at the rapid amendment following its use. The subsidence of the pulse, the alteration in the sensible and chemical properties of the urine, and the abatement of the articular pains and swelling, were all striking and speedy. On the sixth day of the treatment, and five after the commencement of the lemon-juice, Mr. F. was entirely relieved. In similar cases, I have heretofore seen employed by others, and have used myself, the lancet, tartar emetic, mercury, opium, nitrate of potash, colchicum, and magnesia, all separately and conjoined, but none of them have convalesced short of three weeks, and most of them have been ill six weeks. During this period, the disease and the medication together have reduced the patients to an extreme degree, and they have been a long time recovering flesh and strength. Mr. F. lost but little of either, and speedily regained both.

Case II.—Mrs. H., aged twenty-six years, is a married lady, and the mother of three children. Her temperament is mixed sanguine nervous and bilious. She has suffered from childhood with spinal disease, and now labours under a lateral curvature of that organ. She has frequently suffered during the last eight years with neuralgic pains of the breast, sides, and extremities. Her assimilative organs have been deranged for a number of years past, and her tongue presents a uniformly red appearance, with elevated papillæ. Her appetite is never good, and she has tenderness on pressure over the epigastric region and bowels. These symptoms have all resisted a persevering and varied course of treatment.

She was attacked with acute rheumatism on the 8th of April, 1851, and sent for me on the 9th. I found her labouring under the usual symptoms of that disease; her pulse 120, hard and quick; her skin moist and perspiring; her ankles and knees were considerably swollen and painful; her tongue was covered with a white fur and projecting red papillæ; her bowels were constipated; and her urine high coloured, small in quantity, and having a strong acid reaction. She complained excessively of the pain, and was unable to move the affected members. Ordered nine cups to the spine. Calcined magnesia ℥ss, and wine of colchicum seeds twenty-five drops; administer immediately, and repeat every four hours till free operations are induced from the bowels; friction of brandy and salt to the affected parts; morphia half a grain at bedtime.

10*th.* Mrs. H. was somewhat relieved by the anodyne, and slept a little during the night. The purgative operated freely, but the rheumatism is no better; the right hand and wrist are affected. She complains much of the pains, and is unable to make the slightest movement; pulse 120; skin moist; urine high coloured, strongly acid, and depositing a lateritious sediment; tongue white, with raised papillæ. ℞. Vin. colchic. sem. gtt. xxv; magnes. carbon. grs. xii; tinct. opii gtt. viii; for one dose, and repeat every four hours. Evening, no change; continue medicine, with the addition of an anodyne at bedtime.

11*th.* Patient no better; pains shifting their position, as is customary in rheumatism; tongue, skin, pulse, and urine same as yesterday. No operation on the bowels for two days; continue medicine, omitting the laudanum. By evening, the bowels were moved freely; continue colchicum mixture, with laudanum; anodyne at bedtime.

12*th.* Mrs. H. passed a restless night, and this morning is no better. The plan of treatment by colchicum, magnesia, and opium seems insufficient; the disease has not even abated; pulse still 120, and hard; skin has become dry and hot; urine high-coloured, small in quantity, and acid; tongue not altered. Patient complains of pain in the præcordial region; has a slight cough, and tenderness upon pressure in the intercostal spaces over the heart; there is dulness on percussion over the same region, and upon applying the stethoscope there is perceived a distinct endocardial murmur. Diagnosis, rheumatic endocarditis. Six cups in præcordial region. ℞. Hydrarg. chlor. mit. ℈j; pulv. Dover ʒj; M. in pulv. viii. div.; one to be given every four hours; lemon-juice, one ounce every three hours, in a little sweetened water. Evening, pain in the chest relieved; articular pains unaltered; dulness on percussion and endocardial murmur still persist; repeat cupping; continue powders and lemon-juice.

13*th.* Patient slept some during the night, and this morning the skin is moist; pulse 112, not hard; tongue covered with a yellowish fur; papillæ raised and red; urine high-coloured, small in quantity, and strongly acid; no operation on bowels since 11th; præcordial pain, dulness on percussion, and endocardial murmur have all subsided; articular pains not relieved; patient has taken seven powders; no ptyalism; order them to be discontinued; direct calcined magnesia, ʒss every four hours, till bowels are moved; lemon-juice as before.

It is a question undecided and admitting of discussion, whether rheumatic pericarditis, or endocarditis, can be relieved alone by the remedies suited to rheumatic inflammation in the other tissues. The importance to life of the organ involved, in the former case, has usually impelled practitioners to make use of every means to subdue the disease when it attacks these parts. Depletion, counter-irritation, and mercury are all ordinarily employed in conjunction with anti-rheumatic remedies, so that it is impossible to tell whether the cure is really attributable to one set, to the other, or to both conjointly. True, it has been stated that rheumatism of the heart may be cured by colchicum, and an isolated case here and there has been referred to in proof; but I must confess that I would not be willing to trust my patient's life and my own reputation to the trial. The symptoms of endocarditis in Mrs. H. subsided speedily, and we are disposed to give a part of the credit at least to the lemon-juice.

Evening: bowels moved freely; tongue cleaning; skin moist; no symptoms of heart disease; articular pains less severe; pulse 112; urine more abundant and paler, reaction strongly acid. Lemon-juice, an ounce every three hours.

14*th.* Patient slept well during the night, and this morning is much better. She can move in the bed without pain; articular pains and swelling nearly

gone; tongue clean; pulse 96, and soft; urine clear; skin moist. Continue lemon-juice.

15*th*. Mrs. H. improving; lemon-juice every four hours.

18*th*. Convalescent; sits up, and complains only of stiffness in the joints; appetite and strength improving. Lemonade *ad libitum*.

20*th*. Patient well.

Remarks.—We commenced the treatment of this case by local depletion. We were induced to employ cupping to the spine, on account of the old standing affection of this part. This was followed by a purgative draught, consisting of magnesia and wine of colchicum. At bedtime, after the bowels had been moved, we administered an anodyne of morphia. For two consecutive days thereafter, 10th and 11th, we continued to employ magnesia, colchicum, and opium, without any benefit to our patient. She grew worse during their use. On the morning of the 12th, our case was complicated with an endocarditis, and at this period a change in the treatment was instituted. Cupping over the præcordia, calomel, opium, and lemon-juice were the remedies employed. The endocarditis speedily yielded, and at the expiration of thirty-six hours the symptoms of this disease had disappeared. The mercury and opium were then discontinued, and from this time the cure was intrusted to lemon-juice alone, with an occasional purgative of magnesia. Our patient rapidly recovered, and in five days was convalescent. Other remedies besides lemon-juice, it is true, were employed, and probably the endocardial disease was relieved mainly by the cupping, calomel, and opium; but we cannot remove the impression from our minds that the general rheumatic affection was cured by lemon-juice, and that too after a fair trial had been given to colchicum and magnesia, with depletion, calomel, and opium.

Our next case of rheumatism was complicated with pericarditis. We will abbreviate it by giving a detail simply of its salient points.

Case III.—Miss C. sent for me, Sept. 20th, 1851. She is an unmarried lady, about 21 years of age, of sanguine and nervous temperament, and having light hair and blue eyes. I learned that she had been complaining for some days previously of erratic pains in different parts of her body, and stiffness of the joints. I found her labouring under all the symptoms of acute rheumatism. She had swollen and painful joints; a moist but hot skin; a furred tongue, and a pulse beating 110 in a minute. She had constipated bowels, and the pain was so severe as to fix her almost immovably on the bed. The heart, at this visit, gave no symptoms, either rational or physical, of disease. We ordered a purgative of magnesia and colchicum, and directed an ounce of lemon-juice every three hours. At our next visit, the succeeding day, we found the patient still suffering severely from her disease. The purgative had operated well, the pains had shifted their position and affected other joints, but they were not ameliorated in the slightest degree. The pulse beat 120, and the skin and tongue presented the same conditions as before. Upon inquiry, we ascertained the existence of pain in the præcordial region, and on examination we found the usual attrition sounds of pericarditis, with dulness on percussion. We bled our patient eighteen ounces, and gave her calomel and opium at intervals of four hours. In the evening we cupped her over the heart, and the next day blistered her in the same region. The calomel and

opium were continued until the succeeding day, when ptyalism supervened, and they were withheld. During the whole period, the lemon-juice was made use of. The third day after the accession of the pericarditis, the symptoms of this disease had subsided, and the treatment specially directed for its cure was omitted. The rheumatic affection still existed in the joints, but less severely than before. The urine, during the whole period, was high-coloured, strongly acid, and deposited a lateritious sediment. The subsequent cure of the case was intrusted entirely to lemon-juice, and there was a rapid and progressive amendment, in all the symptoms, from this time onward. In four more days, and eight from the commencement of treatment, our patient was able to sit up, and on the eleventh day we considered her convalescent, and ceased to attend.

Remarks.—How long would this patient have been sick under the usual course of treatment? Perhaps the experience of nearly every physician would lead him to answer, about six weeks. It was cured, notwithstanding a severe and dangerous complication, in eleven days; and lemon-juice, if it was not the principal remedy, certainly exerted an important influence toward the production of that end.

It may not be a *propter hoc*, but simply a coincidence; but the truth is, that the cases of acute rheumatism in which I have employed lemon-juice have recovered in a wonderfully short space of time, and the administration of the medicine, and the recoveries, have followed each other in the usual order of cause and effect.

If the preceding detail will have the effect of calling the attention of our countrymen to lemon-juice in acute rheumatism, and lead them to try it, our object will have been accomplished. I judge the remedy has been but little used by American physicians. We think it is by far the best medicine that has ever been recommended in that disease, and Dr. Reese, for his discovery and the promulgation of it, is deserving of the highest esteem of the profession, and the lasting gratitude of his race.

We have recently tried citric acid in a case of acute rheumatism, in the proportion of nine drachms to the pint of water. Of this we gave an ounce every three hours. It did not appear to exert the same happy influence that the lemon-juice did in other cases. The patient, however, recovered in about thirteen days. Further experience will enable us to determine whether citric acid is equally efficacious with lemon-juice in this disease; and if it is found so, economy and convenience will both recommend it in preference.

Wheeling, Virginia, *May*, 1852.

[Dr. William Pepper has tried the lemon-juice in a number of cases of rheumatism admitted under his care in the Pennsylvania Hospital, and on the 1st of July, 1851, he read an interesting communication on the subject to the Philadelphia College of Physicians, in which he gives the results of his experience, with the details of *fourteen* cases in which he employed that remedy. Upon the whole, the general result in Dr. Pepper's cases was favourable to the use of lemon-juice. We refer the reader for the details to Dr. Pepper's very interesting paper in the *Quarterly Summary of the Transactions of the Philadelphia College of Physicians*, Vol. I., N. S., No. 3.—Editor.]

REVIEWS.

ART. XIX.—*Transactions of the Medical Society of the State of Pennsylvania, at its Annual Session, held in Philadelphia, May,* 1852: Vol. II. Published by the Society: 8vo. pp. 146.

THE Medical Society of the State of Pennsylvania has evinced, certainly, a commendable spirit of industry. Though but recently organized, and, as yet, comprising but a small portion, comparatively speaking, of the physicians of our State—the majority of the counties being unrepresented in its councils, and lending no aid in the furtherance of the great work in which the Society is engaged—it has, nevertheless, succeeded in directing the attention of our medical men not only to a more diligent cultivation of the several fields of inquiry within their reach, but to the importance of communicating the results of their labour in a form calculated to augment the general stock of professional knowledge.

The physicians of Pennsylvania have much reason to be satisfied with the two volumes of *Transactions* that have been issued by the State Society. The reports of which they are composed are not, it is true, replete with profound inquiries tending to the elucidation of either of the mooted questions in the etiology, the pathology, or the therapeutic management of disease; they are, more generally, a simple record of detached observations, made by men constantly engaged in the active duties of their profession, often under circumstances and in situations that leave less time for prolonged and elaborate investigations, and for the presentation of their results in a shape adapted for the press, than those who practice the profession in the midst of the dense population of a large city are generally aware. Many of the observations recorded in these reports may, perhaps, be considered trivial and commonplace; still, as additional evidence of the correctness of generally received pathological or practical views, derived from the experience of different observers in dissimilar locations, they have an important influence in giving permanency and increased force to medical truths that are, most generally, of everyday applicability.

The volume of *Transactions* for 1852 contains reports from eleven counties. Two leading subjects appear to have occupied the attention of the majority of the medical societies from which these reports emanate. The first of these is a geological survey of the several counties; and the second, the solution of the question, whether particular diseases or classes of diseases have any positive connection with distinct geological formations.

Three of the County Medical Societies have furnished very beautiful and accurate maps of their respective counties, to illustrate the general description of their geological features as given in the reports. Most of the other reports contain partial geological descriptions of the counties of the disease of which they treat, that will, we have reason to believe, be rendered more complete, and illustrated by maps hereafter.

In respect to the second subject, the relationship between certain diseases and particular geological formations, the materials as yet collected are not sufficiently extensive to lead to any positive results. The question is still to be

determined by a series of similar observations, made in the different sections of the State where the same geological features are met with, and extending through a number of years. Much credit, however, is due to the County Medical Societies of our State for having commenced the inquiry, and we would urge them to prosecute it faithfully until some satisfactory conclusion shall be attained. Enough has been already done to show the importance of studying the geology of a district in our investigation of the etiology of its endemic diseases. As was correctly observed in the report of the Berks County Society, presented last year:—

"In the present state of science, every topographical description must be deemed imperfect that has not geology for its foundation, and topography is manifestly a necessary element in the history of disease."

The disease, which appears to have been most extensively studied in reference to the geological formation of the different districts in which it occurred, is dysentery. Some of the statements in reference to its greater prevalence in gravel, slate, and alluvial formations, and its rare occurrence in limestone regions, are merely negative; while others would appear to indicate that, under particular local and meteorological conditions, it is as liable to occur upon one geological formation as another.

In the report from Delaware County, it is stated that—

"After a careful examination and comparison of facts, the committee are impelled to the belief that the diseases of this county during the year have not been in any manner influenced by geological formation, except that intermittent and remittent fevers have been confined to the marsh lands on the Delaware River."

We are to recollect that Delaware County has but very little limestone. The rocks are mostly mica slate, gneiss, and sienite, though there are also considerable quantities of granite, quartz, felspar, mica, and serpentine. A considerable portion of the county is covered with drift, from a few inches to several feet in thickness, composed chiefly of silicious sand and pebbles. Along the Delaware River, there is a deposit of alluvium, varying in breadth from half a mile to a mile; a considerable portion of it is marsh, which is generally well banked and drained.

The committee, in the report from this county, remark that

"*Dysentery* has been much more common in all parts of the county than for many years before, and in some places has been quite malignant and unmanageable."

In the report from Lebanon County, it is stated that

"The diseases prevalent in this county present no marked peculiarity, nor has the nature of the soil, to a great extent, any influence in the production or propagation of disease. In the gravel district, *dysentery* prevails more frequently than in other parts of the county, either endemically or epidemically, and often in the most malignant form. Whether the distinctive geological features of this section may furnish the cause of the frequent occurrence of this malady, is a question which has not yet been solved. The surface of a large portion of the district, the slopes and tops of the ridges, being composed of shaly and slaty materials, is not raised to an elevation exceeding that of our limestone valley. The shales are of a ferruginous composition, interspersed with specks of sulphuret of iron, and contain other mineral salts to a much greater extent than occur in the limestone regions. The water of the wells and springs, in the summer and autumnal months, when the supply of it is much less than at other seasons of the year, is probably more charged with mineral salts than when the flow of water through the interstices of the slates is greater in a given time, and to this may be attributed the exciting cause of this complaint. If such be the

case, it has been suggested that filtering the water through finely-pulverized limestone would answer as a preventive of this flux."

In the report from Mifflin County, we find the following statement:—

"The assertion, in the Berks County report of last year, that *dysentery* never prevails epidemically upon the limestone, is not borne out by our experience here. Many of the cases occurred upon the lime rock, and amongst those who used the hard water issuing from it."

Logan's valley, Blair County, has principally a limestone soil; the soil of the hills, as well as of the Alleghany Mountain, rising abruptly from among them, on the east side of the valley, is chiefly slate and red sand. Throughout this valley, *epidemic dysentery*, we are informed by Dr. Confer, extended with great violence during the latter part of the summer of 1851, only disappearing on the approach of cold weather. "It occurred," he adds, "after a dry and warm season. All the ponds and stagnant pools were dried up, and the streams were generally low."

Dr. Rodrigue, of Hollidaysburg, Blair County, states that, in his vicinity, he has "witnessed *dysentery* both in its epidemic and sporadic visits: twice as a well-marked epidemic, in 1832 and 1842, and, if the number of cases that it fell to his lot to prescribe for in 1851 be considered, when added to those of our neighbours, as sufficient to constitute an epidemic, then he has seen it three times."

The localities in which it prevailed he describes as "the Alleghany Mountain, secondary formation, Hollidaysburg, transition limestone; most extensively in the former."

Dr. C. W. Parrish, of Marshalton, Chester County, remarks: "The *dysentery* has frequently been prevalent (since 1828) as an epidemic, but was generally confined to the elevations, and principally to the talc-slate range, though cases occasionally occurred in the regions previously occupied by fevers."

The remarks which follow in immediate connection with the above statement are particularly interesting.

"In July, 1850," says Dr. Parrish, "a considerable flood occurred, which caused the Brandywine to overflow its banks and to submerge the meadows, at a time when they were either mowed, with the hay remaining on them, or having a very heavy growth of grass ready for the scythe. The mass of vegetable matter passed with unusual rapidity into a state of decomposition, and the effluvium became extremely offensive. From one meadow on the east branch, the stench was carried, by the prevailing currents of wind, a considerable distance up a hollow to the house of one of our most substantial farmers, where, in the month of August, the dysentery attacked, in succession, nine members of the family, leaving only three unscathed; and also made its appearance in several other families living near the meadow, while other houses, not within the range of the prevailing winds, escaped its visitation. About six miles above this place, the flood brought down, and lodged in fence corners, and high against the trunk of trees, very many tons of recently mown grass, and of hay nearly ready for the barn. Late in the fall, *that* locality was visited by remittent fever of a rather typhoid character, from which the patients recovered very slowly, but which was confined to three or four families living on the banks of the stream."

"During the summer of 1851, dysentery appeared in the neighbourhood last referred to; and in a distance of about a mile along the creek, I believe hardly a family escaped its ravages; and the proportion of deaths was very great."—"I have perhaps 'travelled out of the record,' in alluding so minutely to the diseases of 1850; but I was led to do so in order to call attention to the fact that, in that year, the same local causes, in one vicinity, produced dysentery,

in another fever; and that, in the succeeding year, the locality previously visited by dysentery remained healthy, while the ground occupied by fever in the preceding year was the seat of a most violent dysentery."

Dr. Thomas, of West Chester, Chester County, says that he thinks he has "more frequently met with dysentery, as an epidemic, on the slate ridge north of the borough than elsewhere, though it has so occurred, occasionally, on the low ground." Subsequently, he states that "he saw, last summer (1851), a few cases of dysentery, probably twenty-five or thirty, the peculiarity of which appeared to him to be that they prevailed more upon the low than upon the high grounds. During the period that he has practised his profession, he has generally met the disease more on the high grounds; but most of the severe cases of the past season were on the low, and near streams of water."

Dr. P. A. Ogier, who resides in the great Limestone Valley, in the Township of East Whiteland, makes the following report:—

"The most serious epidemic of the year (1851) was *dysentery*, which prevailed so extensively over a large portion of this and the adjoining counties."—"Early in July, the disease appeared on the Slate Ridge, to the south of the Limestone Valley, and was confined to this region for some weeks, attacking a number of families living adjacent. In the month of August, it became more general, and I had cases in almost every quarter of my practice."

Further on, he says:—

"I could discover no local cause of the disease. Indeed, it appeared in almost every variety of situation: on the summit of the Slate Hills, in the rolling country to the south and east, as well as in the Limestone Valley."

Dr. W. D. Hartman, a resident practitioner of the borough of West Chester, writes as follows:—

"Of *dysentery*, twenty-four cases (all white) occurred in my practice. The cases varied from a mild attack, requiring but three or four days for its cure, to the most severe form of the disease. About half my cases occurred during August, and were confined to the mica slate ridge. The weather was very hot and dry, with cool nights; the difference of temperature between the mornings and evenings and the middle of the day, in the localities affected by the disease, as shown by the thermometer, varied from 25° to 30°."

Dr. J. P. Edge, of Downingtown, Chester County, remarks as follows:—

"Dysentery first made its appearance in this vicinity on the 1st of June. It continued until late in October. So widespread was it, and so general through some families, that the conclusion that there was some common cause was irresistible. My attention was directed to the detection of any appreciable one; but the disease was seen in such variety of locations as to baffle any definite conclusion. The weather was warm and dry to an unusual extent throughout the summer and early fall, affecting sensibly the springs and wells of the neighbourhood. I noticed, as in former seasons, that most of the locations visited were immediately sheltered by a hill (though not so invariably in southern exposures as in former seasons), with a spring-head or streamlet near the door, *i. e.*, places where there was a high temperature, with great radiation and evaporation from the surface, and which were but little influenced by the winds from the north and west. Of forty-eight cases noted, five only occurred where limestone water was used by the family, although full one-half of the whole number resided on the limestone formation, or on its edge. Those five occupied situations where the sun's rays exerted great influence, and where there was a want of cleanliness and comfortable lodging. On this subject there has always prevailed a sentiment in this place, which can be traced back to the experience of Drs. Todd, Kersey, and Fairlamb, that the limestone water of our valley had a prophylactic effect against dysentery."

Dr. Edge remarks that, out of the first fifteen cases, twelve were in persons who used water that had been conveyed through leaden pipes, and he attributes the aggravated character of some of these cases to this circumstance.

Dr. S. H. Harry, of Doe Run, Chester County, states his impression to be that congestive fever prevailed in the limestone districts and in the valleys; whereas, *dysentery* prevailed mostly on the hills; and he has never known it to prevail as an epidemic in limestone districts.

Dr. Griffith, of Springton, Chester County, after enumerating pneumonia typhoides, *dysentery*, bilious, remitting, and intermittent fevers, smallpox, varioloid, measles, hooping-cough, scarlatina, chicken-pox, parotitis, catarrh, or influenza, erysipelas, and rheumatism, as the diseases which have prevailed in his district of country within the last forty years, adds:—

"I have not noticed that any of these diseases have been more liable to occur in one geological formation than another; but intermittent and remittent fevers are more apt to prevail in low situations and near swamps and stagnant waters."

Subsequently, he remarks:—

"Limestone does not abound in this region of country, and I have no experience of the preventive qualities of limestone water in dysentery; but I will state a fact in relation to that disease. There are some six or seven families, and part of the time there have been as many as twelve or fourteen families residing in the buildings which are situated immediately on the bank on the west side of the dam at Springton Forge. I have attended the greater part of all the cases of disease which have occurred at that place for forty years, and, although *dysentery* has prevailed at various times, at nearly every house in the vicinity of that place, I cannot recollect of ever attending, or hearing of a serious case of *dysentery* in any one of these families."

In the report from Bucks County, we are informed that—

"An obstinate and, in some instances, fatal dysentery occurred in many situations, during the hot and excessively dry summer and autumn of 1838; in our practice, it was almost exclusively confined to an elevated sandy ridge, extending from the Neshamony Creek to the River Delaware, upon which Doylestown is situated, and which bounds the Buckingham and Solesbury limestone valley on the north-west. We have no recollection of any case originating in the limestone valley immediately adjacent. This remark, however, conflicts with the observations of our medical brethren of Montgomery, in connection with the dysentery that prevailed in the limestone valley of Plymouth and Whitemarsh, in the year 1849. The discrepancy we will not attempt to reconcile."

Dr. Beaver, in the report from Berks County, describes epidemic *dysentery* as having prevailed pretty extensively in his neighbourhood. The cases which came under his own observation were of a mild character, and for the most part yielded readily to an ordinary simple treatment. The whole number of cases was seventy, of which five proved fatal. "The geological formations on which my cases occurred," he remarks, "were generally the limestone, and some seven or eight on the gravel, near the junction of the two. My past experience," he adds, "brings me to the conclusion that dysentery generally prevails in a more unmanageable form on the gravel and slate formations than it does on the limestone."

In the same report, Dr. Bertolet, speaking of the occurrence of epidemic *dysentery* in Oley, says:—

"The first case of dysentery in my practice occurred on the 26th of July. The patient was my next neighbour. The disease immediately spread in every direction; although southwardly, where we have an entirely different geological

formation, it did not extend beyond half a mile."—"The season was unusually dry, the country being, in many places, almost parched."—"The disease did not abate until the cold weather set in, and indeed was somewhat aggravated by the first light frosts."—"The districts where dysentery was most common were either of the slate or gravel formations, or slate underlaid with limestone. Some few sporadic cases were found in the limestone region, but these could almost invariably be traced to exposure on gravel. I noticed that persons using the water of springs having a southern aspect were more liable to attacks of the disease than those who obtained it from an opposite locality. Every family residing on the southern inclination of the Monocacy Hill, so named from the creek which has its source in it, using the waters of the sparkling springs which in a great degree irrigate the soil, were, with one exception, seized by the disease, and even this one did not entirely escape, as it had it in a mild form, which I attributed to the fact that he drank water drawn from a deep well. On the contrary, the people living on the northern side were not attacked at all. Families, in general, using water from deep wells, or springs having a northerly exposure, were taken less early or severely. To these causes I attributed the immunity of my own family. My well is deep, well sheltered, and on the northern side of the house.

"These facts, as well as the prevalence of the epidemic during and after an unusual drought, prove that solar heat exercises a powerful influence, both in predisposing the system and developing malaria in the production of dysentery.

"It is not a little curious that those who had the disease two years previously, when it prevailed to some extent, escaped last season. Typhoid fever existed simultaneously with dysentery, but in no case was a patient attacked by both at the same time. In persons who had both in succession, sometimes one, sometimes the other preceded."

In the report from Huntingdon County, we find the following remarks:—

"As to the influence which different formations of soil may exercise upon disease, or, in other words, whether, for example, the slate formation will increase the progress and severity, or protract the removal of diarrhœas and dysenteries more than the limestone formation, is a matter difficult to decide in this mountainous country. In the fall of 1849, *dysentery* prevailed with much violence in a limestone district in the north-eastern part of the county, while the neighbouring slate formation district, with a few exceptions, remained free from that disease. Again, it is an everyday occurrence to hear persons who are accustomed to the use of limestone water complain of pain in the bowels and diarrhœa, after having taken a few drinks of slate water away from home. It would appear that atmospheric influences are the most obvious causes of disease in this county. Hence we consider the sudden transitions from warm to cold, and from cold to warm, and the malarious miasma which exists endemically through the whole valley of the Juniata, the main causes of the most of our maladies."

We have thus brought together all the statements contained in the reports comprised in the volume before us, having a direct bearing upon the question of the geological relationship of dysentery—the only disease in regard to which such relationship has attracted special attention. It must be evident that the observations upon which these statements are founded are too limited in extent, and in many instances have been too loosely made, to enable us to arrive at anything like a satisfactory conclusion. They are, however, in more respects than one, interesting, and, by directing the attention of the physicians of our State to the accurate investigation and careful record of all the circumstances, local or general, telluric or meteorological, domestic or social, under which the epidemic and endemic diseases that prevail in the different sections of it occur from year to year, they must necessarily lead to important results. So far as the question of the relationship of disease to particular geological formations is concerned, if the plan suggested for the appointment of commit-

tees charged with the investigation of the diseases prevailing throughout the several geological divisions of the State, be adopted, by the subsequent comparison of all the facts obtained by these several committees, some positive results may be anticipated.

In one or two of the reports, reference is made to the occurrence of erysipelas as an epidemic, and its connection with puerperal fever is either directly or indirectly noticed:—

"Erysipelas," we are told, "in the latter part of March, 1852, made its appearance in Palmyra, Lebanon County, and its vicinity, as an epidemic, and proved fatal in many instances. Few lying-in women escaped its attack, and the ratio of mortality (in these), we have been informed, was quite large. It has thus far confined itself to this section, included within the red sandstone and silurian limestone."

Dr. Rodrigue, of Hollidaysburg, Blair County, states that—

"Erysipelas has prevailed to a considerable extent this last year (1851); it generally assumed an inflammatory character. The antiphlogistic course was pursued, and the only external applications have been either a bread and water poultice (properly made) or a solution of acetate of lead for the first forty-eight hours; then the inflamed parts and sound skin were painted twice or thrice a day with tincture of iodine. Should we unfortunately handle our patients much, we always refuse obstetrical calls, as in two instances a puerperal fever in our opinion was the result. Matter from an erysipelas patient will communicate disease; we have reason to believe that we took the disease in this way ourselves, and we have seen others similarly infected."

In the report from Montgomery County, the following statement occurs:—

"Erysipelas prevailed in February and March in the upper portions of Montgomery, in the neighbourhood of Berks and Bucks counties. In Kulpsville, it assumed a malignant character, and was spread by means of the attendants upon those already affected. Erysipelas prevailed also in Harleysville, along the pike, and in the neighbourhood of Tylersport; also, about the line of Lexington. This disease seemed first to attack the throat, and afterwards the surface of the body. In females, it was especially liable to attack the peritoneum, and one or other of the serous tissues in the male. When the peritoneum became affected, there was much hiccough from the disease extending to the diaphragm. In some cases, symptoms of arachnitis, followed by coma, presented themselves. The disease in many cases proved fatal. The treatment consisted in the administration of tonics, calomel, nitrate of silver, and the usual remedial agents.

"Many cases of puerperal fever occurred during the prevalence of erysipelas, and, so far as the committee (by whom the report was drawn up) have been able to gather from the reports they have received, these cases of puerperal fever were confined chiefly to the same localities as the former disease. Many of the cases terminated fatally."

We find repeated reference made in the reports contained in the present volume of *Transactions* to the diminished prevalence, generally speaking, of periodic fevers; to the increased frequency of typhoid fever throughout a large portion of the State; to the less sthenic character of diseases generally, and their tendency to assume at an early period a low form, precluding active depletion, and requiring an early resort to tonics and stimulants.

The following facts, presented in the report from Mifflin County, in reference to the somewhat regular cycles in which what are termed paludal fevers have prevailed in the valley of the Juniata, are particularly interesting. They are not very easily explained by the popular doctrine of a specific miasma:—

"Lewistown, the seat of justice for Mifflin County, stands upon the lime-

stone rock No. 6, and the axis, including portions of 7 and 8, is well developed on the ridge north-west of the town.

"This flourishing borough, with its 3000 inhabitants, is beautifully situated at the confluence of the Kishacoquillis Creek with the Juniata, about one mile north of the grand entrance to the narrows, from which the river pursues its winding way through the defiles of the Blacklog and Shade mountains to the adjoining county of Juniata. Since the commencement of the public improvements, Lewistown has risen rapidly to wealth and importance, and enjoys from its favourable position for trade and manufactures advantages surpassed by few inland towns in our State.

"A remittent fever of a congestive character, which prevailed as an epidemic in 1823, and was particularly rife amongst the labourers on the turnpike, and afterwards in 1828, and for several successive seasons—during the construction of the Pennsylvania Canal—gave to this place and vicinity a character for unhealthiness which, all things considered, it did not perhaps deserve. The mortality attending this epidemic was more the result of previous habits of intemperance and a total disregard of all dietetic regimen than any unusual malignity in the nature of the disease. Three-fourths of the cases were confined either to strangers unaccustomed to the atmosphere of the river, or to emigrant Irish but lately landed upon our shores."

"In 1850, and the six or seven seasons previous, a fever of a bilious remitting type prevailed in the north-eastern part of Lewistown, being the extremity most remote from the river. At the close of the season, for several years, as the weather became colder, the fever assumed the true typhoid type, and a number sunk under it with hemorrhage from the bowels. It was evidently kept up through the winter months by contagion, and is another proof of the conversion of malarial remittent, through the intervention of secondary causes, into the enteric or typhoid type.

"The fever was traced to a pond of putrescent water, connected with a brickyard, immediately in the rear of the infected district, from which it took the name of the frog-pond fever. In 1850, when the fever was at its height, the pond was filled up, and the disease extinguished.

"From all that has preceded it is evident, then, that to the river we are principally to ascribe a class of diseases from which the other valleys are comparatively exempt. And it appears, from the earliest medical records of our county, that the recurrence of fever upon the Juniata has been marked by periods of great regularity, having a cycle of about twenty years. The first authentic account we have of its prevalence was about the year 1782–3, but of which no particular details have been left to us. It again prevailed to a great extent in the years 1801, '2, '3, and '4. From this time it nearly disappeared until the years 1823–4, when it again visited our waters, having prevailed several seasons previously on the lower parts of the Juniata and on the Susquehannah beyond.

"From this period remittents and intermittents appeared annually, to a more or less extent, on some parts of the stream, until 1851, when they left us altogether, and have not yet reappeared. Our physicians, however, agree that in 1842, and for several successive seasons, there was an unusual accession to the number of cases, so that we have had three regular cycles of twenty years, with a fourth not so distinctly marked, yet showing a tendency to conform to the usual periodic time. At the cycles of 1803 and 1823, and very probably that of 1783, the epidemic did not prevail at the same seasons upon the different sections of the Juniata, but in two instances, at least, we know that it commenced on the waters of the Chesapeake, with an upward progress along the shores of the Susquehannah and its tributaries, not reaching until the third or fourth season its ultimate boundaries upon the extreme branches of pure cold water, where the disease died out as it were for lack of the pabulum which kept it alive.

"In 1804, it reached no further than the southern limits of Huntingdon County. At every succeeding period, its upward boundary was much extended—a fact of easy explanation when we take into view the rapid progress of improvement upon our streams, the clearing out of the lands, giving access

to the sun, and a higher temperature to the waters; but above all to the noxious exhalations arising from the stagnant ponds connected with the mills, forges, and furnaces everywhere scattered over the streams. Another remarkable feature attending our febrile diseases of late years is their tendency to visceral congestion, and a gradual change of diathesis, from the acute inflammatory, which prevailed forty years ago, to the asthenic or typhoid type, which they have been imperceptibly assuming for many years past; so that the active depletion, the full vomiting by tartrite of antimony, and the large doses of drastic purgatives, which were once prescribed with the best results, are now much more rarely and cautiously resorted to. Prostration of the powers of life is more readily induced than formerly, and the system sooner requires the support of tonics and stimulants, with a more generous regimen."

We had marked several passages in the reports contained in the present volume of the *Transactions* of our State Society, to lay before our readers, as presenting highly interesting observations in reference to the typhoid fever which appears to have prevailed during the past year in the interior of the State to some considerable extent; but we have already exceeded the limits within which we had hoped to confine this notice of the volume before us. For this reason, we must also omit the summary we had prepared of the experience of physicians in different sections of the State in reference to the most effective treatment of dysentery, a disease which has been of late unusually prevalent in many of the counties.

We extract the following observations on the treatment of scarlatina from the report of the Medical Society of Berks County, as deserving of attention. The free use of diluted hydrochloric acid we have ourselves prescribed in that disease, and from our as yet limited experience of its effects, we feel persuaded that it is a remedy deserving of a more extended trial. With Dr. Heister, however, we are far from believing that it will prove a specific, "to be relied on to the exclusion of other rational means when indicated."

As regards the city of Reading, Dr. J. P. Heister remarks in regard to scarlet fever as follows:—

"In my practice, it was almost exclusively confined to children, and the most prominent prodromic symptom was vomiting. After the eruption was out, and the disease well formed, the most marked symptom was delirium, which lasted four or five days, or, I should rather say nights; for, most commonly, the patient was quite rational and tranquil during the day, but very delirious at night. I find, by reference to my record, that I have treated seventy-two cases through their whole course, out of which three proved fatal. I saw three other fatal cases, all in the sequelous stage. One of these died from hemorrhage of the bowels, one from swelled glands before suppuration was established, and one (seen in consultation a few hours before his demise) from anasarca. Of the seventy-two cases treated from the first setting in of the disease, seven became anasarcous, and none had suppuration of the glands. None of the anasarcous cases died. I saw three or four other cases of anasarca in consultation, all of which recovered except the one above referred to.

"The whole seventy-two cases were treated by laxatives when required, which was usually at the commencement; and the unrestrained use of hydrochloric acid, diluted with water and sweetened; excepting one case in which bronchitic symptoms were prominent, and antimonials were used. From fifteen to twenty drops of the acid were directed to be put in a half pint of water, at the temperature of the chamber, well sweetened with white sugar, and allowed *ad libitum*. It was commonly very grateful to the patient, and taken with decided pleasure. No other general treatment was resorted to from first to last. From a good deal of previous experience in the treatment of this fatal disease, I was seriously impressed with the evil of the *nimia diligentia medicinæ*, and at first resorted to the use of hydrochloric acid rather as an abatement of this evil than from any confidence in its virtues. Sceptical as I am, however, in medicine, I

am, from my late experience, forced to attribute very considerable efficacy to it in the treatment of scarlatina. I by no means, however, consider it a specific to be relied on to the exclusion of other rational means when indicated. I think its salutary effect upon the local inflammation of the throat, when the acid is put in use at an early stage of the disease, not among the least of its benefits. It appears to me, I had fewer anginose cases to contend with than some of my brethren who did not use the acid; I certainly had fewer than I have before had in the same number of cases treated in the same period of time. I deemed it necessary to bleed in a single case, and that proved fatal, not because bleeding was inappropriate, as it for a while controlled the violence of the symptoms, but because the case was complicated with severe convulsions.

"Externally, to the throat, I used counter-irritants, preceded by leeching, where the local symptoms threatened to be violent. I found oil of turpentine and olive oil, mixed in equal parts, or in the proportion of two-thirds of olive oil with one of turpentine, applied every three or four hours, and the evaporation prevented by the application of a strip of flannel, a convenient means of attaining my object. The sloughy ulcers of the throat, when met with, which was seldom, I treated satisfactorily by the application of nitrate of silver in solution, in the proportion of two scruples to the ounce of water, applied once a day. I found that this application can be much more effectually made by means of a nicely trimmed piece of sponge, securely attached to the end of a whalebone handle, than by a camel's-hair brush. I even prefer a swab, made by rolling a narrow strip of muslin on the end of a stick, to a brush. A very important indication in young children is to keep the nostrils pervious, in order that the due aeration of the blood in the lungs may not be prevented. This is done very effectually by throwing freely into those passages, by means of a small sponge, warm sage tea, slightly acidulated with vinegar, and sweetened. Young children, too, as well as older ones, who have become exhausted by the disease, require the tough mucus, which obstructs the larynx, to be removed from time to time. This, also, is best done by a sponge, and the tea prepared as above described. Cool or tepid sponging of the surface was resorted to, with its usual tranquillizing effect. My cases of anasarca were treated principally with jalap and cream of tartar."

Dr. McDonough, in the same report, speaking of an epidemic of scarlatina which occurred at Bernville, and its vicinity, says that almost every form of the disease, from the mildest to the most malignant, was observed.

"In one family, in particular, every member, consisting of seven children, were attacked; the two oldest of whom, a boy of eighteen years of age, and a girl of sixteen, were peculiarly affected. This was in the latter part of October and the commencement of November (1851). The inflammation of the throat imparted its virulence to the bronchi, and an alarming condition of the respiratory organs soon became apparent. At this stage I was called in. The voice I found reduced to a low whisper. The tonsils and parts adjacent by no means tumefied, but ragged, and here and there ulcerated, and emitting a very fetid smell. On examining with the stethoscope, I ought to compare the thorax to a kettle with something boiling in it. The poor children could not lie down, lest suffocation should ensue. The cough was severe and dry. I at once gave them myrrh, strongly acidulated with acid. muriatic., mixed with sage tea as a gargle, and inwardly, syrup. scill. comp., and strong vinegar, āā 1 oz., to which was added half an ounce of acetated tincture of opium: dose, a spoonful morning and night. On the second visit, on the third day, I found my patients much improved. The expectoration was free and copious, the digestion much better, and they had slept soundly through the night, though in a semi-erect posture. I subsequently added a solution of sulph. quiniæ, and when, from personal sickness, I was obliged to discontinue my visits, their appetite was wonderfully increased."

The chairman of the committee by whom the report, from which the above is taken, was drawn up (Dr. Stewart, of Reading), remarks, in respect to the treatment of scarlet fever, that

"Regarding it as one of the family of diseases for which there is no ascertained specific, all he has aimed at has been to take care of the throat and attend to other local symptoms as they presented themselves, and to keep the system in proper order. With this view, in ordinary cases, he has for the last four years prescribed nothing beyond castor-oil to keep the bowels open, and ordered once or twice a day, during its continuance, a sinapism to the throat; and he can truthfully say that within that period he has not had a single case which ended in sore-throat. Even in cases in which this was threatened, the mustard at once prevented it."

Dr. Beaver, of Reading, in the same report, remarks as follows:—

"Dysentery had scarcely subsided when scarlatina followed. This was more general in its attacks than the former. It was mostly of the mild or simple variety, and in no case (excepting two) of the malignant form. Like dysentery, it seemed to commence in town, and afterwards spread to the surrounding country. Up to January last (1852), I treated some forty-eight cases, a great majority of which were in town; six of the above proved fatal; three of these deaths took place in adults, and the rest in children under thirteen years of age. My treatment was plain and simple, and pretty uniform; it chiefly consisted in the exhibition of a mild emetic or cathartic in the outset, as the case indicated, followed by the very free use of the hydrochloric acid given in water, *ad libitum;* always making it a point to give considerable, that the system might be affected or influenced by it. Externally, I never omitted an application to the throat, on flannel, of equal parts of powdered cubebs and black pepper, mixed with lard; a portion of which being applied was removed and then repeated every four or six hours. Not only in this disease, but wherever an inflammation of the throat and neighbouring parts exists, have I applied this external application, and know of no other that has so often produced relief and benefit to the patient."

In the same report, Dr. Wanner, of Kutztown, informs us that, besides the usual diseases of the several seasons, his neighbourhood was visited during the past year, 1851, with an epidemic of scarlatina.

"Most of the cases were of the anginose form. The treatment instituted in the twenty-four first cases consisted principally in an emetic and purge at the onset, and diaphoretics afterwards, in greasing with *speck* (the fat of bacon) the whole surface of the body; of this number I lost two. In forty cases following, the same plan of treatment was pursued, but in place of the milder diaphoretics, a prescription like the following was employed: ℞. Hydrochlor. ammoniæ ʒij; magnesiæ sulph. ʒv; ant. et pot. tart. gr. j; syrup. acid. citrici ℥ss; aquæ ℥iv. M. Of this solution, I gave to a child three or four years old, one teaspoonful every three hours. Of this latter number of cases I lost none. I would add, that the volatile liniment has in all the cases been used externally to the throat."

Annexed to the report from Berks County is a communication from Dr. William Gries, of Reading, on what he terms the "catarrho-nervous fever." Although differing somewhat from the views laid down by the writer in relation to the pathology of the disease of which he treats—without the time, however, to discuss at present the question—we, nevertheless, consider the paper, inasmuch as it presents the practical observations of a highly intelligent and clear-sighted physician, an interesting one. We most heartily coincide in the sentiments so forcibly expressed by Dr. Gries, in the conclusion of his essay on the defects in our present system of medical education.

The report on variola and vaccination is a highly important one; we should desire to see it brought to the notice of every practitioner—of every person, indeed, in our State; and hope that the editors of our medical journals will find sufficient space to publish it, or at least that portion of it which comprises a synopsis of the evidence relied upon by the committee for the esta-

blishment of the value and certainty of vaccination as a preventive of small-pox.

We have not yet alluded to the very sensible and manly address of Dr. Charles Innes, of Northampton County, delivered as President of the Society, at the opening of its session of 1852. This has not arisen from any disrespect to its author, nor from the want of a due appreciation of the merits of the address itself, but from our having occupied as much space as can be conveniently appropriated for a notice of these *Transactions*, in our desire—but imperfectly carried out, it is true—to present to the medical community at large some idea of the fruits of the organization of the profession in Pennsylvania, so far as that organization has been effected; in the hope that our brethren in those portions of the State where, as yet, no such organization exists, may be induced, by associated efforts, to aid in the praiseworthy effort already made to increase the general stock of medical knowledge, by rendering more perfect our acquaintance with the true nature of the endemic and epidemic diseases that prevail in the different sections of the State, and, at the same time, more certain and uniform, the means adopted for their prevention, mitigation, or removal. We have, consequently, confined our very imperfect analysis exclusively to such portions of the volume as comprise observations more immediately bearing upon the etiology, the pathology, or the therapeutics of disease.

D. F. C.

ART. XX.—*Sketches of Brazil; including New Views on Tropical and European Fever; with Remarks on a Premature Decay of the System incident to Europeans on their Return from Hot Climates.* By ROBERT DUNDAS, M. D., Physician to the Northern Hospital, Liverpool; formerly Acting Surgeon to H. M. 6th Regiment; and for twenty-three years Medical Superintendent of the British Hospital, Bahia. London, 1852: 12mo. pp. 449.

THE author of these sketches is evidently a close observer and independent thinker. Many of the medical opinions advanced by him are in opposition to those currently received by the profession, and sanctioned by some of the greatest names in ancient and modern medicine; they profess, however, to have been the result of a close study of diseases—their causes and character—in different climates and localities; and, as he has presented the chief evidence on which his opinions are based, he affords his readers an opportunity of testing their truth.

The observations contained in the present publication were originally delivered in a series of lectures at the Liverpool Northern Hospital in the beginning of the present year; those lectures are here published without any material alteration.

In the introductory remarks, Dr. Dundas attacks the commonly received opinion of the specific difference between the typhus, the typhoid, and the relapsing, or, as he would denominate it, the remitting fever.

"The greater number of the distinctions, he argues, in the symptoms attempted to be established between these fevers, are obviously either trivial or visionary—distinctions without a difference; and, however broadly they may be defined in the closet, I have never yet met with a physician who could con-

clusively verify them at the bedside of the patient, although I have witnessed these diseases in this country, in Ireland, and in different quarters of the continent.

"As regards the character of the eruption, so constantly insisted on, nothing, I believe, can be more fallacious; for I have myself more than once witnessed every variety of eruption, pretty distinctly marked, in the same patient, at one period or another of his disease, and practitioners who have seen much of tropical fevers must have observed the occasional appearance of all the eruptions commonly deemed pathognomonic of special forms of European fever. Dr. Wragg, in a paper published in the *Charleston Medical Journal and Review* for March, 1851, on an epidemic of 'Breakbone Fever' in Charleston, in the summer and autumn of 1850, describes the eruption attending the disease as 'not at all peculiar in its character, but varying almost infinitely.' It resembled, in various cases, scarlet fever, rubeola, impetigo, scarlet rash; in some cases the 'skin was intensely red, and raised in large and numerous welts;' 'in some cases it was erysipelatous; in others, petechial; in others, like common prickly heat; and, in a few, papular.' So vague, indeed, is the value of the eruptions as a diagnostic sign in fever, though so strongly insisted on by authors, that, even at the present hour, we are unable absolutely to diagnose certain forms of eruption from the ordinary appearance of flea bites.

"Moreover, we know that, independently of the English, many of the French, and the most distinguished German observers, whose claim to accuracy and talent few will contest, have not recognized these varieties of fever as distinct diseases. No practical physician, indeed, will admit that symptoms alone are sufficient to justify a distinct classification of fevers; and neither in the symptoms nor in the results of the so called typhus, typhoid, and relapsing fevers do we find a wider range than is constantly observed in other diseases, and is rationally accounted for by individual peculiarities, difference of season and climate, modes of living, and the sanitary condition of the population attacked, with various other moral and physical influences. In like manner, also, we can rationally explain the difference of mortality in different localities and circumstances.

"Dümmler, in his account of the Silesian epidemic of 1847, describes the fever as observing a rhythm at equal intervals like an ordinary ague, and the sequelæ were not very dissimilar. That it was identical with the Scotch epidemic of 1843 (and others observed at different periods in Ireland and Scotland), all admit; yet, this Silesian fever presented abundant crops of rubeolous and petechial eruptions, while the Scotch epidemic was characterized by their absence.

"Again, the prevalence of several distinct epidemics in the same locality and at the same epoch is not only contrary to general experience, but opposed to our knowledge, as far as it goes, of the laws by which epidemics are governed in all quarters of the world; nor does the term 'intercurrent' by any means satisfactorily meet the difficulty.

"As distinctive of typhus, Dr. W. Jenner, in his valuable work on fever, observes that he has never seen a relapse; a proposition, I apprehend, opposed to the general experience of the profession. He also prominently insists on the shorter duration of the fatal cases of typhus, unaccompanied by any definite anatomical signs, compared with the fatal cases of typhoid fever, in which local lesions are commonly detected, as a proof of the non-identity of the specific causes of the two fevers. Now, I apprehend that this fact admits of another and more satisfactory solution by reference to the intermittent and remittent fevers of hot climates, as well as numerous diseases of our own latitudes. In the more rapid and fatal form of these maladies, no well-defined local disorganization will be found after death; while, if the disease be prolonged, local lesions are always to be detected. In fact, Dr. Jenner himself states that, if typhus fever be prolonged beyond twenty-one days, local lesions sufficient to cause death (independently of the fever) are always present. Dr. W. Stokes, in his work on fever, a work unexcelled in any language, lays down what I believe to be the true law on this question, namely, 'that, in almost any instance of essential fever, local disease springs up at some period or other of its course;'

'and that a vast proportion of fever cases are carried off by these local affections.' He also refers to the question of time.

"I am not aware whether Dr. Wm. Stokes, or Dr. Graves, of Dublin, has visited hot climates; but the latter, in his valuable work on *Clinical Medicine*, observes that 'there is not so much difference between the diseases of Ireland and of warmer countries as has been imagined; they differ, it is true, as to their degree, but not as to their pathology.' Now, this is a remarkable statement; and supposing Dr. Graves had not himself visited tropical countries, strongly indicative of the genius of the man; for, of the absolute truth of the doctrine here so broadly laid down, there exists not the shadow of a doubt. Dr. Cormack justly remarks that, 'were this doctrine more generally appreciated, the accounts of the different fevers unfolded to us would, perhaps, present less picturesque and piquant, but certainly simpler and truer pictures of disease.' Most undoubtedly they would.

"The parallel, moreover, drawn by Dr. Graves between the Dublin and the tropical yellow fever admits of no dispute; the correspondence is complete. The same is true of the Edinburgh yellow fever, as observed by Dr. Cormack, although it differed from the Dublin fever in this, that one was of the continued, while the other was of the remittent type; there being, also, instances of intermission. But who that has examined the history of the cases can for an instant question the essential identity of these fevers?

"I cannot, indeed, resist the conviction that ere long the essential identity of fever in all countries will be generally admitted by the profession; and my chief regret is, that the present advocacy of the doctrine and the opportunities which I have enjoyed of verifying its absolute truth, had not fallen to the lot of some of the eminent men whom I have named, whose talents would have done justice to its importance, and whose well-established reputation would have at once secured that attention to which questions so interesting to science and of such high practical import are so pre-eminently entitled.

"I would finally appeal to the undoubted specific influence of quinine (when opportunely and adequately administered), in controlling the fevers of tropical climates, and to its equal efficacy in controlling the fevers of this country, as has been fully proved by the cases treated at the Liverpool Northern Hospital, the Liverpool Fever Hospital, St. Thomas's Hospital, London, and elsewhere. I would ask whether, irrespective of all other evidence, the specific power exercised by proper doses of quinine over all these several forms of fever does not afford conclusive proof that in their essential nature these fevers are identical, and differ only in form and degree?"

To such as feel an interest in the important question as to the identity or specific difference of the so-called specific fevers, as well as to the advocates of the reciprocal convertibility of the several forms or types of fever, the foregoing remarks of Dr. Dundas will not prove unacceptable. To judge, however, of their full force, the extracts which the author has given from Dr. Cormack's work on the *Epidemic Fever of Edinburgh*, and Dr. Dümmler's account of the *Epidemic Typhus of Silesia*, and his references to the statements of other modern writers on the subject of fever, should be consulted.

The first lecture treats of the causes of the speedy destruction of health in European residents on their return from tropical climates.

After referring to the rare occurrence of gout among the native Brazilians, as well as among the foreign residents, notwithstanding the habits and modes of living prevalent in the higher ranks of society, and to some extent among foreigners, are such as would seem to favour the development of the disease, Dr. Dundas proceeds to account for this exemption. He maintains that the excess of certain principles in the circulating and secreting fluids of the body, which constitutes the chief predisposing, as well as the immediate or exciting cause of gout, are, in the inhabitants of tropical climates, abundantly and unceasingly eliminated by the capillary vessels of the surface.

"We must remember," he remarks, "that the cutaneous system performs infinitely more important functions in the higher than in the lower latitudes; removing through the perspiratory secretion considerable quantities of animal matter, and especially very sensible amounts of the lactic and uric acids. Tophaceous deposits I have scarcely ever met with. It will thus be sufficiently apparent that the economy, under such circumstances, will be more efficiently relieved from those effete or deleterious principles which, carried into and retained in the general circulation, would constitute a real *materies morbi*, and which, by first impairing the organic nervous power, would induce disorder, or rather increase that already established in the secreting, excreting, and digestive systems. From the disturbance of the functions of these systems, plethora and increased vascular irritability would commonly result; and would give rise sooner or later, according to idiosyncrasy, constitution, and predisposition, to all the varied manifestations of tonic or anomalous gout.

"In all hot climates, the secretion from the external capillary system is incessant and profuse, while the secretion from the kidneys is in an equal ratio diminished, their functions being, in fact, vicariously and energetically performed by the skin. The urine is consequently scanty in quantity, and acrid in quality from a deficiency of its watery constituents; for example, often not more than a few ounces of high-coloured urine will be passed during the twenty-four hours, although *gallons* of liquid ingesta will have been taken during the same period."

Dr. Dundas has shown, from an analysis of *post-mortem* examinations of the kidneys of residents in Brazil, that, although these organs are but seldom the seat of actual disease, still they are very generally in a state of atrophy, from, as he supposes, a prolonged diminution of their function.

The condition of things above described is maintained commonly for a long series of years.

"Eventually, the individual returns to the colder latitudes of the north with his digestive powers seriously impaired, and his capillary system weakened by long-continued over-excitement. The accustomed profuse perspiration is suddenly arrested, and the renal system is as suddenly called on to resume its long dormant functions, but it is too late. The kidneys, from prolonged inaction, have suffered, if not organic disease, commonly an amount of functional change sufficient to interfere with the performance of their now all-important duties, and the most formidable consequences necessarily ensue. Gout, simple or complicated with rheumatism, appears in all its various forms, disposing to apoplexy, paralysis, disease of the genito-urinary system, functional and organic cardiac disease, or anomalous and distressing derangements of the digestive and assimilative functions, with their numberless train of diseased moral and physical sympathies."

The second lecture is devoted to a consideration of the treatment of the gouty attack by which the "break-up" of the constitution of Europeans who have returned home after a prolonged sojourn in tropical climates is ordinarily followed. The entire course of treatment, hygienic as well as therapeutic, recommended by Dr. Dundas, is judicious. We cannot spare space, however, to present even an outline of it.

The subject of the third lecture is the uncertainty of the received theories explanatory of the nature and cause of fever. The leading position of Dr. Dundas in regard to this important form of disease is thus expressed by him:—

"I am strongly convinced that much of the obscurity and uncertainty, and many of the contradictory doctrines espoused by different parties, are more to be ascribed to the imperfect views taken by the respective authors than to wilful perversion of facts or positive ignorance of the relations of various morbid actions with the series of changed functions which they involve, and of their direct or indirect connection with each other. There is a homogeneity (if the

expression be permitted) in the laws of disease, of which we are just now beginning to enjoy the first glimpses; and although it would be too much to allege that fever and inflammation are but one and the same morbid action greatly diversified, no doubt, through the influence of numerous concurrent circumstances, we nevertheless know that the theory of the day which rendered a special reason of the proximate cause of the *one* was deemed to be equally illustrative and explanatory of the other. The phenomena of fever, nevertheless, as specially distinguished from inflammation, are, I am disposed to believe, *essentially one and the same;* the simplest expression of that morbid action being delineated in the paroxysm of an ague—in the succession of its three stages, hot, cold, and sweating; and assuming under certain circumstances of climate, constitution, modes of living, &c. &c., the various forms of *typhus fever, plague, remittent fever, yellow fever,* and all the subordinate varieties of fever denominated *essential* by the French school."

In an examination of the doctrines of Lancisi as to the cause of paludal fevers, Dr. Dundas, by a reference to his work entitled, *De Noxiis Paludum Effluviis,* published in 1695, shows very conclusively that Lancisi is not, as is so commonly believed, the author of the modern exclusive doctrine of marsh miasm—that he nowhere teaches the idea of marsh poison being one and indivisible—of its being the exciting cause of intermittent fever by its poisonous action on the nervous or sanguiferous system—of its producing these effects in only one mode—and of its being limited to the sole generation of intermittent fever, specially and individually, as distinguished from continued fever.

We cannot follow our author in his long array of quotations from the work referred to—a work well worth the attentive perusal of all interested in the investigation of the etiology of what have been termed "miasmatic diseases."

"The authority of Lancisi," remarks Dr. D., "cannot be adduced in favour of the doctrine of a special poison; but his authority is invaluable as proving the distinct origin of every variety of fever from the agency of moisture, cold, and heat, and other atmospheric vicissitudes. In this respect, his observations become of the highest interest, and, in a great measure, corroborate the views which I have myself been led to adopt; first, as to the cause of these fevers; and second, as to the means of prevention and cure. His words on the effects produced by the effluvia are distinct and emphatic: 'Checking the perspiration by which the noxious and useless matters, which otherwise accumulate in the system, ought to be carried off from the body.' 'Unde fit, ut quæ nostris e corporibus perspirari deberent vel noxia, vel saltum inutilia corpuscula, magnam partem *prohibentur* effluere.'"

The following is a brief summary of the leading views entertained by Lancisi on the subject of marsh poison and its effects:—

1. The poisonous emanations of marshes are not of a simple nature; but are always compound.
2. They are composed of inorganic and organic effluvia.
3. The inorganic portion can scarcely be held of itself to be a cause of disease.
4 The organic constituent—which, by the way, is almost wholly of an animal composition—conjointly with the preceding, occasions the fevers, &c.
5. These emanations are, consequently, of a very compound character, and vary very much in their physical and chemical constitution.
6. They are more especially influenced by the season of the year.
7. They produce a diversity of diseases: continued, remittent, and intermittent fevers, as well as other maladies, such as diarrhœa, &c.
8. The fevers are not always caused by marsh airs, or miasma; but they occasionally arise from a disturbed state of the elasticity of the atmosphere.

9. They are materially influenced by worms taken up by the animal body.
10. They occasionally originate where the atmosphere is in the state of highest purity.

"Lancisi never employs, throughout his work, the word '*venenum*,' or poison; and consequently he cannot be charged with the theory of marsh miasm being a specific poison. The diversity of effects, indeed, which he ascribes to its agency fully negative any such proposition. In fact, as I have already stated, Lancisi has been *quoted*, not *read*."

Lecture fourth, after a review of the prevailing doctrines of malarious fevers, enters upon a discussion of the question, Is periodicity a distinctive feature in certain diseases?

Dr. D. maintains that the law of periodicity, or the disposition to remission and exacerbations at certain intervals, is not confined to intermittent fever, but will be found to apply more or less distinctly to all human diseases—to those arising in the most opposite conditions of the animal economy, and determined by morbific agents apparently the most dissimilar and opposite in their nature as well as in their results. To illustrate this, Dr. D. runs a parallel between gout and ague, both diseases being marked by distinct paroxysms and remissions; and in both, the interval between the paroxysms being attended by certain feelings of *malaise*, irritability, depression of vital power, and derangement of the secretions.

On the question, Can the supposed Poison of Ague remain dormant in the System? Dr. D. remarks as follows:—

"It has been urged, in proof that a special poison acts on the system in ague, that individuals exposed only for a brief period to the influence of marsh miasmata have been seized with intermittent fever. Now, I have myself been repeatedly exposed, and have witnessed the temporary exposure of others, in robust health, and with unimpaired nervous energy, to the most concentrated emanations of marsh effluvia, in various quarters of the globe, and in *no single instance* have I ever observed such temporary exposure followed by ague. It is true that, had such persons been previously subjected to the influence of long-continued heat, cold, fatigue, intemperance, the depressing passions, &c., then, indeed, intermittent or remittent fever, rheumatism, or dysentery, or some other disease, might, and probably would, ensue, according to the constitution and predisposition of the individual. Such sudden attacks I have repeatedly witnessed to supervene on such temporary exposure in marshy localities; but I have invariably found, in these instances, that the constitutional powers of the individual had previously suffered from one or other of the depressing moral or physical agencies just alluded to. Nor, in this inquiry, must we lose sight of the fact, that a long interval may elapse between the application of the *supposed* malaria and the appearance of the intermittent, as I myself frequently witnessed in 1812, while serving as resident medical officer in the general hospital at Cadiz, the garrison of that fortress being then chiefly composed of British troops, who had been engaged in the memorable and disastrous expedition to Walcheren. Even in this country I met with a distinguished member of the English bar, who had just recovered from a severe attack of ague, supposed to have had its origin in a night journey across the Pontine marshes, under circumstances almost identical with my own. Now, this gentleman had, in the interim—that is, between autumn and spring—enjoyed his usual health; yet did his physician, one of the most eminent in England, consider that the marsh poison had lain dormant in the system during this long interval, until called into activity by a prolonged exposure, in an open carriage, to a keen easterly wind, exactly seven months after the supposed infection! The case of a lawyer, also, under precisely similar circumstances, was reported to me while in Edinburgh, with this difference only, that the period of incubation, as the phrase goes, was considerably less—about one-half—between the supposed introduction of the poison and the development of the disease. Recently, also,

Mrs. C., wife to one of the British merchants at Bahia, where she had resided for some years, and whence she had just returned, after a long sea voyage, was seized with a severe attack of ague, on the evening of her arrival in Cheltenham, months after she could by any possibility have been exposed to the influence of marsh miasm.

"Are we, then, in these and similar cases, really to believe that a poison has entered the system, and remained dormant and unchanged for months, nay, for years?

"There is something so painfully unsatisfactory in our endless succession of medical theories, that the mind, in this as in other questions, longs for a resting-place; it feels the want of a *point d'appui*, and often, I am persuaded, actuated by that feeling, sees a little, and jumps to a conclusion, less from the force of the facts and cogency of the reasoning, than through the desire of enjoying some fruits for its labour, even if it be but the mere empty satisfaction of an hypothesis."

The residue of this lecture is devoted to a review of the conflicting opinions of medical authorities as to the source, nature, characteristic progress, and effects of the alleged marsh poison.

In the fifth lecture, Dr. Dundas presents the evidence derived from his personal experience in proof of the position that marsh miasmata and malaria are not the efficient cause of intermittent and remittent fever.

He commences with a description of Bahia, showing that in that city we have accumulated, in almost unexampled abundance, all those physical conditions which are deemed by physicians to constitute the elements essential for the generation of the most deadly scourges of humanity—epidemic and endemic diseases. The author further adds that, within the last twenty years, he has witnessed the city exposed, on three several occasions, to the combined horrors of siege and famine, with all their revolting contingencies.

"Yet," he adds, "notwithstanding this appalling combination of physical, moral, and social evils, universally admitted as the chief agents in producing the most extensive and fatal diseases, Bahia continued, and can, moreover, up to the present hour, boast the happy privilege of having escaped, since the period of its foundation, from every species of endemic or epidemic malady—*yellow fever, cholera, influenza, typhus, and dysentery.*"

Dr. D. remarks that the Brazilian and Portuguese merchants and shopkeepers, who inhabit the lower division of the city, and who rarely quit their dwellings, enjoy comparative immunity from intermittent fever, while those whose duties frequently lead them from the lower to the upper city often suffer from this disease, as well as from continued fever, without other apparent cause than the sudden transition from the warm, but equal temperature of the lower city, to a strong, cool, and humid sea-breeze, which they encounter while bathed in perspiration and exhausted by the labour of ascending a considerable eminence.

The singular salubrity of Bahia Dr. D. attributes to the equality of atmospheric temperature; to the serene, beautiful, and dewless nights; the healthy organization of the native Brazilian, his simple and abstemious diet, the absence of abject poverty, and the absence of those moral excitements resulting from the struggles and vicissitudes of European life.

The remainder of the lecture is devoted to a statement of facts adverse to the miasmatic origin of intermitting fever; the frequent occurrence of that disease in situations removed from all paludal and other supposed sources of miasm; and the occurrence in the same family, simultaneously, of ague, inflammatory fever, and typhus. From a careful investigation of the circumstances under which intermittent fever prevailed in Bahia and its vicinity, Dr.

D. was led to believe that it was probably attributable to exposure to moist sea-breezes. Under this supposition, adequate prophylactic measures were adopted in hospital and private practice, with the most favourable results.

The whole of this lecture is deserving of an attentive perusal. We regret that it is not within our power to present a more extended abstract of the leading facts embraced in it.

The sixth lecture commences with a description of Bomfim, a suburb adjoining the city of Bahia to the northward, and situated in the midst of a morass. It is partially subject to the influence of the tide, and consequently exposed to those deleterious effects which are believed to result from the intermixture of salt and fresh water, together with immense quantities of vegetable and animal matter, exuviæ, &c., constantly acted on by the powerful influence of a tropical sun. Notwithstanding, we have here all the elements commonly deemed necessary for affording to marsh effluvia their most concentrated and deadly degree of intensity; yet Dr. D. assures us that the suburb of Bomfim enjoys the reputation of being, and is in reality, at certain seasons, one of the most healthy districts in Brazil. At that season of the year, when the sun, nearly vertical, exerts its greatest power, it is thronged with visitors, who pass a great portion of the night in the open air. Yet, during this season, a case of intermittent fever is almost unknown; while the towns situated on the sea-coast, at some miles to the northward and eastward—that is, to windward—of the hills bounding the Bomfim marsh, and consequently excluded from its influence, but exposed to the full sweep of the humid sea-breeze from the southern Atlantic, are notoriously subject to ague *at all seasons* of the year.

"The history of Bomfim, during the rainy or winter season, affords the strongest additional evidence," remarks Dr. D., "in proof of the correctness of the explanation here offered. The wet season commonly sets in about the beginning of April, with a sudden change in the monsoon, when atmospheric vicissitudes—considerable for Bahia—often ensue; the rain descends in torrents, and converts the Bomfim marsh into one entire sheet of water; and, above all, the change of wind from about N.N.E. to S.S.E. at once deprives Bomfim of the protection of that range of hills already so often alluded to, and exposes it to the full force of a powerful monsoon, direct from the Southern Ocean. Under such circumstances, agreeably with the received doctrines, all noxious exhalations must be effectually arrested; yet what, in reality, do we now find to occur? We find that Bomfim, having been almost perfectly free from intermittent fever during the summer months, when it *ought* to have been absolutely uninhabitable, now becomes subject to that disease. How, then, are we to explain an anomaly so striking, and so inconsistent with the ordinary doctrine regarding the origin or production of ague? The following, I apprehend, will afford the correct solution:—

"In addition to the large amount of evaporation from such an extensive expanse of water, the powerful south-east monsoon, loaded with moisture, but necessarily free from any miasmatous contamination, now sweeps in, without the slightest impediment, direct from the Atlantic, and Bomfim is thus placed under precisely similar circumstances to the towns on the sea-coast above alluded to; and the results, as regards the health of the inhabitants, are precisely similar, and continue so until the change of the monsoon to the north-east, in October, again restores Bomfim its former hilly screen, and, at the same time, its wonted salubrity. The few permanent residents, chiefly of the lower classes, who continue to inhabit this district throughout the year, present the ordinary characteristics, though not strongly developed, of the dwellers in low and humid localities.

"It is especially worthy of remark, that, along the summit of the semicircle of hills, already described as bounding the marsh to windward, there are numerous habitations, entirely unsheltered, and constantly swept by a powerful sea-breeze direct from the ocean. *All* these, without exception, are greatly

subject to ague at *all* seasons of the year; while, as already stated, the houses placed below, in the centre of the swamp, are only affected at certain seasons, these seasons being precisely those during which the production of marsh exhalations must be deemed entirely suspended."

After presenting many other facts and considerations, which Dr. D. believes to be altogether inconsistent with the idea of a specific morbific exhalation from marshes or other situations in which large masses of vegetable matter are undergoing decomposition, he proceeds to consider the unity of febrile diseases. These he groups into three distinct classes, namely, fever without local action, fever with local action, and fever with a special action, and arising from a specific cause.

"In all the three classes," Dr. D. remarks, "the common feature of family resemblance is portrayed in the initial symptoms—the nervous depression of longer or shorter duration, the cold shivering and anserine skin, followed by the glowing heat and general perspiration.

"It is, indeed, more than probable that fever is the expression of a type of disease essentially one and uniform, but admitting of an almost endless variety of forms, the simplest being displayed in the single paroxysm of an ague. It is furthermore obvious, on the most cursory observation, that the description of fever as a disease has, in the generality of instances, been drawn for certain localities, and not from the whole group of febrile diseases, as witnessed in different parts of the world. The typhus fever of this country is superseded by the bilious remittent and intermittent in southern climates, by the plague in the Levant, and by the yellow fever within the tropics. Each of these maladies, under the special influence of climate, temperament, different modes of living, and numerous other agencies, affects certain peculiarities in its progress; but they are all distinctly impressed by the phenomena universally characteristic of fever as a genus of disease in every clime.

"Climate, indeed, and its varieties, whether permanent or temporary, always modify the animal economy, and induce, if I may be allowed the expression, an epidemic or endemic state of the human constitution exposed to its influence. This state will vary as the atmosphere may be cold or hot, dry or humid, pure or impure, variable or equable, stagnant or the reverse; the geological character of the country or district, also, and the numerous moral and physical conditions already alluded to, powerfully contribute towards the formation of this endemic constitution in man. Moreover, the history of epidemic and endemic diseases almost universally proves that, prior to their invasion, the country or district has been subjected, for a period more or less prolonged, to some well-marked deviation from the ordinary constitution of the inhabitants generally; so that the slightest disturbing cause, moral or physical, is followed by disease, the characteristics of which are determined as much by the constitution of the individual, as by the constitution of the atmosphere.

"An extensive acquaintance with the fevers of different regions of the globe has gradually established in my mind a conviction of their essential identity. And this has been confirmed since my return to Europe, in 1842, by my observation of the typhus fever of this country and of France, which, in its more intense form, differs rather in degree than in essence, from the remittent of hot climates, or the yellow fever, as I observed it during the epidemic of 1812–13 at Cadiz, while serving as resident medical officer at the general hospital for the reception of the sick of the army of Andalusia. In each, you have commonly the same tendency to remission, and there is no one symptom, even to the yellow skin and black vomit, which you will not find occasionally present in each of the three diseases, neither is there any one organ or system so constantly affected, nor any lesion so constantly detected on *post-mortem* examination as to characterize the several maladies. There is no one morbid result, in fact, in any of these forms, that you will not occasionally find in all."

"The remittent, or bilious remittent, of southern climates, I need scarcely observe, is simply a more intense form of intermittent, and differs only in severity of the symptoms, the less perfect remissions (intermission really ap-

plies to neither), and the greater disturbance of the organic functions. They are to be treated on the same principles, and are controlled, fortunately, by the same remedies."

The seventh lecture treats of the arrest of intermittent, remittent, and typhus fever by large and repeated doses of quinine. Dr. D. denies that the action of quinine is that of a tonic in the ordinary sense of the term; he maintains that its action is obviously on the nervous system, whose functions it favourably and rapidly modifies when they are depressed or exhausted by any of the numerous moral and physical agencies enumerated as the causes of fever, and thus it restores to the organic nervous system its normal influence over the animal fluids and the vital phenomena.

In a consideration of the exciting cause of fever, Dr. D. lays down the doctrine that nervous and vascular exhaustion being induced by excessive heat, laborious exertion, the depressing passions, &c., frequently accompanied by intemperance and other excesses, exposure to cold, damp atmosphere, or the sudden diminution of the temperature of the body, will then be sufficient to induce fever of the most intense grade.

"If we examine," Dr. D. remarks, "those instances which are especially put forward in proof of the action of a morbid poison on the system, we shall commonly find that they refer to soldiers and sailors engaged, in hot climates, on detached or fatigue duty, in dockyards, on watering expeditions, &c., and exposed to the intense rays of the sun, rendered doubly oppressive by reflection from the sides of the hills, or in the deep valleys, where such operations are most usually carried on. The cutaneous system (both in its nervous and its vascular elements) is brought into a state of the highest excitement by excessive heat and laborious exertion, frequently accompanied by intemperance and other excesses. Extreme exhaustion of the nervous system necessarily succeeds, and is followed by a collapse. Night comes on, with a *positive* difference in temperature, often more than thirty degrees, between the mid-day heat and the earth's surface towards sunrise. The nervous energies, animal and organic, being already profoundly depressed, and the faculty of evolving heat proportionately diminished, the men fall asleep, not only deprived of their ordinary protection, but with their light tropical clothing drenched in the chilly night-dew, and exposed to a brisk land or sea-breeze, to awake in all the horrors of ardent fever. A swamp, a morass, a fen, a something unknown (for, even advanced as we are in the knowledge of the laws of nature, there exists in the human mind an inherent tendency to look to some secret, hidden, and unrevealed influence), is at once accused as the sole agent, and, thus satisfied, all inquiry ceases. Now, this train of argument—inferring a pre-existing cause from certain effects—may be perfectly legitimate; but the cycle of logic is not equally correct, assuming that cause to be an unknown quality or essence, while it is matter of observation to every one that similar effects result from causes *known* and *patent* to all.

"For example, under the foregoing circumstances, the influence of cold and exhaustion, positive as well as relative, on the sentient extremities of the nerves, and the rapid depletion of the vascular system by profuse tropical perspiration, seem to be altogether forgotten. In such cases, the depressed or exhausted energies of the cutaneous nerves will lower, and occasionally even paralyze the capillary circulation, and thus deprive the nervous centres of the vivifying influence of vitalized blood; for the activity or diminution of the circulation depends less on an action in the heart than on an action in the capillaries. The energy of the peripheries of the incident nerves being thus depressed, the respiratory movements lessened in proportion to the diminished activity of the organic nervous functions, imperfect arterialization of the blood, with deficient circulation in the pulmonary and systemic capillaries, and defective depuration, necessarily ensue; and are followed by an arrest of the evolution of animal heat, and of the normal reaction between the blood and tissues—results highly deleterious at all times, but in some constitutions, and in certain states

of the system, as fatal as the most deadly poison, and often with almost equal rapidity. Surely, under such circumstances, we need not evoke the phantom Malaria, in order satisfactorily to account for the supervention of fever, or any other serious malady.

"'Nec Deus intersit, nisi digni vindice nodus.'

"Neither has the influence of an occasionally large and sudden subtraction of the saline constituents directly from the serum of the blood, incident to over-exertion and exposure to the sun in hot climates, been hitherto duly estimated by physicians. Physiologists teach, and pathology confirms the fact that those elements are essential to the preservation of the circulating fluid from decomposition, for the black and dissolved condition of the blood, observed in the more rapid and fatal forms of tropical fever, is found almost invariably allied with great diminution or entire loss of its saline constituents. And this, I apprehend, is due, not to the exhaustion of these elements by the violence of the fever, but chiefly to their removal, which precedes the invasion of the disease and greatly influences its course.

"Moreover, you must all be cognizant, from the experiments of Hunter and others, of the immediate and decided impression which the sudden loss of even a few ounces of blood exercises on the general system, and, through it, on the constitution of the entire mass of the blood itself. So, likewise, will the exhaustion of the nervous power, and the sudden and rapid depletion of the animal fluids by the rapid and profuse perspiration incident to all laborious exertion in hot climates, often profoundly and immediately modify the whole animal economy. Thus, indeed, can we more satisfactorily explain the occurrence, from simple exposure to intense solar heat, of fevers similar in character to the most pernicious fevers of marshy districts, as observed by Dr. Murray; and most medical officers who have served in hot climates must have witnessed, as I have, a perfectly healthy man *walked* into a pernicious fever, ay, and quickly, when the atmosphere has been humid, hot, and sultry.

"In offering a solution of the above and analogous facts, we are much aided by the evidence of Sanctorius and others, who have shown that, independently of its direct depressing influence on the vital powers, a drenching perspiration (never absent under the above circumstances) will arrest, or seriously interrupt, the elimination of those digested or effete elements which are alone removed by insensible exhalation, and whose retention in the system is ever attended by the most formidable results.

"Moreover, the immediate influence of the organic nerves, in modifying the constitution of the blood, is now placed, by direct experiment, observation, and experience, beyond all rational question; nor can it be doubted that such morbid changes can be suddenly impressed on the blood, through the nervous system, as to transform the healthy man of to-day into a mass of disease by to-morrow, and that, too, independently of the introduction, *ab externo*, of a single particle of any morbid agent into the system. I need scarcely allude to the daily observed fact of the influence of a serious nervous shock in morbidly modifying the animal fluids. An instructive case in point, of fatal yellow fever following amputation in consequence of accident, is given by Sir George Ballingall, and our own hospital affords numerous analogous instances; whilst Dr. Hodgkin, in his interesting and valuable observations, has shown that, in certain states of the constitution, even a slight lesion is adequate to the production of similar morbid results—a fact to which I myself can bear testimony.

"We know, also, on the authority of Dr. Cheyne, that the most fatal cases of typhus fever will originate solely in anxiety and mental depression, without the individual having been exposed to any contaminating influence whatever; and I have repeatedly witnessed intermittent fever, of the most intractable character, originate under precisely similar circumstances, and, on one or two occasions, apparently from accidental loss of blood.

"How, also, does it occur that careful attention to all those measures which preserve the general health, sustain the nervous power, and support the capillary circulation, will completely annihilate the virulence of marsh poison? This is clearly proved, in numerous and well-authenticated instances, on the

coast of Africa, where, by careful attention to the general health and habits of the men, the use of woollen dresses, and protection by awning from the sun during the day, and during the night from exposure to the chill and humid atmosphere, ships' companies and boats' crews have been maintained in a state of perfect health, notwithstanding a long-continued exposure to all the ordinary exciting causes of African fever. Even so lately as July, 1850, we are told, on high authority, that with regard to the alleged unhealthiness of it (the coast of Africa), so nearly have European skill, science, and care, baffled the climate, that the African station is now as healthy as the rest of our naval stations in the tropics. And we are indebted to that distinguished physician, Sir James Clarke, for the following important and analogous facts—facts quite in accordance with my own experience in different quarters of the globe, but utterly inconsistent with the notion of a *specific poison.* He says that a person may sleep with perfect safety in the centre of the Pontine marshes, by keeping his room 'well heated by a fire during the night;' and again, that 'the exemption of the central parts of a large town from these fevers (malarious) is explained by the dryness of the atmosphere, and by the comparative equality of temperature which prevails there.' How does this occur? If there be a poison, it must be taken in either by the air-passages, or in deglutition, or absorbed by the skin. 'Having his room well heated' certainly cannot prevent the access of the malaria to the skin, or to the lungs; on the contrary, from the current maintained by a fire, a greater amount of air, and consequently of the poison incorporated with it, must necessarily have access to the lungs at each act of respiration. Deglutition taking place only when we are awake, all access through this channel is necessarily denied. Can we then believe that simply warming a room causes the poison to refuse to enter the system by the skin or by the lungs, though extensively diffused through the atmosphere? or, have we not, indeed, this obvious solution to the problem: THERE IS NO POISON? *De non apparentibus et non existentibus eadem est ratio.* Is not the dryness of the atmosphere, as well as its warmth by means of a fire, an adequate protection against the reduced temperature of the night, and little swerving from that enjoyed during the diurnal heat? Thus are sustained, especially during sleep, the organic nervous power, and consequently the activity of the universal capillary and respiratory functions, through which the normal reactions, so essential to health, are promoted and maintained.

"Such I believe to be a true solution of the foregoing remarkable and well-established fact, and explanatory of the invasion of or the immunity from febrile diseases in all warm climates. In those countries, you will please to recollect, the capillary vessels play a much more important part than in colder latitudes, and are, consequently, more exposed to derangement from their excessive and incessant action, maintained by the permanent stimulus of high temperature. This important system, therefore, soon becomes weakened, as do also the peripheral nerves, whose energies, being exhausted or depressed from the same cause, greatly increase, if they do not indeed originate, the general mischief. Prolonged exposure to the sun, residence in humid and sultry localities, excessive fatigue, debauch, the depressing passions, exhaustion from previous disease, &c. &c., will equally depress the organic nervous power and the capillary circulation, and thus establish a morbid sensibility and susceptibility to serious modification from such limited atmospheric changes as are caused by a strong humid breeze or other equally slight physical or moral influences, which, in a different state of the economy, would be either unattended with evil, or would pass altogether unnoticed. Moreover, in hot countries, all the internal organs sympathize largely and immediately with the slightest derangement of the dermoid membrane—and I am deeply convinced that such derangements constitute the immediate exciting cause of nineteen-twentieths of the diseases (including all the fevers) to which Europeans are subject in hot and tropical climates.

"The comparative exemption from fever enjoyed by the Negro race in hot climates is another well-established fact; and its solution, I apprehend, will be found chiefly in the peculiar structure of the dermoid membrane of the black, in the abundant and often highly-offensive sebaceous or oleaginous secretion

with which the surface of the African is naturally anointed, and which preserves him against the effects of atmospheric changes. Also, the more energetic performance of the functions of the cutaneous system in the Negro, as compared with the European, renders him less subject to exhaustion in the hot and humid atmosphere of his native climate."

This perhaps unreasonably long extract from the work of Dr. D. will give our readers a very correct idea of his views in relation to the etiology of an important class of fevers—those usually considered to be the product of a miasmatic or malarious influence. These views are by no means new; they have been already broached and defended by several medical authorities of distinguished eminence. Dr. D. has presented them, however, in a very clear and concise form, and besides, has given them additional weight by the results of his own observations collected during many years' experience in many lands. They demand a careful consideration. The doctrine of a specific poison, generated during the slow decomposition of vegetable matter as a cause of fever, is fast losing ground, while the more rational opinion thus expressed by Dr. Bascome (*History of Epidemic Pestilences*, &c., London, 1851), is attracting increased attention and additional advocates, as the etiology of endemic and epidemic diseases is more closely and systematically investigated.

"I take leave," says Dr. Bascome, "to reiterate my opinion—an opinion founded on a careful review of the foregoing history of epidemics—that all epidemic pestilences or diseases are to be accounted for on the principle of natural causes, viz., that atmospheric disturbance, consisting of variations of temperature, by hygrometric influence, atmospheric pressure, electrical tension, &c., are the exciting causes; while, on the other hand, want of light, impure air, especially from the want of ventilation, in which are included malaria and all other noxious vapours, *from whatever source arising*, scanty diet, and habits induced by the irregular artificial life of many, are the predisposing causes, which, by enervating and otherwise spoiling the system, render it more susceptible of external atmospheric impressions in the production of epidemic pestilence or disease."

The eighth lecture is devoted to a consideration of the causes of salubrity in Bahia, its equal temperature, its dry cool nights, its never-failing breeze, preventing a stagnant or calm state of the atmosphere, the temperate habits, orderly, cheerful, and equable disposition of the inhabitants. Dr. D. notices the recent political changes in Brazil, entailing others affecting the social and moral condition of the people of Bahia, and the influence which these changes have already exercised on the character and frequency of certain classes of diseases. He specifies the greater frequency of insanity, the increase of continued fevers, and of suppurative hepatitis, and the decrease of elephantiasis arabum. An interesting description of the latter disease as well as of the elephantiasis græcorum, which is of common occurrence at Bahia, is given.

The ninth lecture treats of the state of medical education in Bahia, and of the character and condition of the medical profession there. Having already extended our notice of the very interesting work of Dr. D. far beyond the limits we had originally intended, we cannot indulge in an examination of the topics embraced in the two concluding lectures. They, in common with those which precede, will amply repay an attentive perusal.

Appended to the volume are two papers, the one "On the Efficacy of Large and Frequent Doses of Quinine in arresting the Course of Continued Fever," originally published by the author in the *London Medical Times*, and the other "On the Arrest of Typhus Fever by Cinchonism," which appeared originally in the *London Journal of Medicine*.

From the latter we quote the following summary of the pathological and therapeutical views maintained by Dr. Dundas:—

"1. Ague and remittent fever do not originate in malaria or marsh poison.

"2. Intermittent, remittent, and continued fever are mere varieties of the same disease. The intermittent constantly merges into the remittent or continued type, and continued fever assumes still more frequently (in Brazil) the intermittent form, and all are curable by the same agents. By the same agents we can arrest them all. Could this be done if they originated in different *specific* poisons? or can we arrest by any power the course of a truly specific disease, as smallpox, &c.?

"3. The notion of typhus fever being unknown in the tropics is altogether unfounded. The intermittent and continued fevers of tropical climates often run into genuine typhus.

"4. Bark duly administered will generally arrest the intermittent and remittent fever; and typhus fever being essentially the same disease, bark ought to, and will generally arrest it.

"5. Ague will occasionally resist for many days the most judicious applications of quinine—and finally yield; the same remark applies to the typhus.

"6. Quinine is more certain in its results in proportion to its early administration, but is less to be depended on with the aged.

"7. The administration of large doses of quinine in typhus, when not curative, is *never* followed by the slightest ill effects.

"8. As typhus is commonly the more severe form of fever, and the subjects of its attacks generally less favourably disposed, so we shall find considerable discrepancy in the several results.

"9. Typhus will occasionally resist quinine, and yield to other remedies, and the same holds good with ague; yet, who ever associates the latter disease with any other remedy than quinine? And I am firmly of opinion that the time approaches when the treatment of typhus fever, after ages of vacillation, will be established on the same sure and satisfactory basis as that on which the treatment of ague now rests."

D. F. C.

ART. XXI.—*Du Rachitis, de la Fragilité des Os, de l'Osteomalacie.* Par E. J. BEYLARD (de Philadelphie), Docteur en Médecine de la Faculté de Paris, Membre de la Société Médicale d'Observation, Membre Correspondant de la Société de Biologie. Paris, 1852: 4to. pp. 285. With 8 plates. *On Rachitis, Fragility of the Bones, and Osteomalacia.* By E. J. BEYLARD, M. D., &c. &c.

DR. BEYLARD is, as the title-page of his book declares, a Philadelphian, who has pursued his medical studies, and obtained his degree in the doctorate of medicine in Paris. The volume which he has here presented to the profession is his inaugural thesis. The opportunities which Dr. Beylard has enjoyed for investigating the interesting and obscure pathological conditions or condition of which he has treated in this volume have been very great; particularly from the fact of his connection with Professor Trousseau, as also from his having had access to the large public and private pathological cabinets of the metropolis of France. From these sources of personal information, as well as from an extensive and careful study of the literature of his subject, he has derived the materials for his essay.

The prominent object of the author, in the prosecution of his investigations, "was to establish the position that the softening of the bones which some-

times affects adults differs in no respect from that morbid condition of children which is known as *rachitis*. The symptoms, the progress, the pathological anatomy, the effects of treatment, are the same in both; or, at least, the slight differences are readily explained by reference to the peculiarities of the skeleton at the different periods of life." (p. 20.) Accordingly, these affections are rigorously compared in all their pathological features; and we presume that most of our readers will, after perusing Dr. Beylard's volume, accept the conclusions at which he himself arrives.

We would not be understood to imply that Dr. Beylard assumes any claim to originality in adopting and urging this view. On the contrary, in many parts of the volume, frequent allusion is made to both ancient and modern authors who maintain the same opinion. Indeed, he states that, "until the time of Levacher de la Feurtrie (in 1772), no writer attempted to establish a fundamental distinction between the softening of the bones of adults and that occurring in children" (p. 15); and the opinion most commonly received at present admits, we think, their identity.

After presenting a succinct historical sketch of the disease in question, in which the varied phases of conjecture, speculation, and observation which have been at different times elicited are briefly noted, the author fairly enters upon his subject by an investigation into the *etiology* of rachitis and osteomalacia, to each of which a separate chapter is devoted.

With regard to the important question as to the transmission of these affections from parent to offspring, Dr. Beylard inclines to the actual occurrence of such hereditary descent in both cases, and produces very apposite illustrations in support of his belief. But, as he remarks, it is not easy, particularly in reference to the softening of the bones of adults, to draw a positive line of separation between the influence of an hereditary taint, and that of accidental hygienic causes in the production of the morbid condition. It is difficult, however, in view of the instances cited here and elsewhere, to deny to the former a certain degree of predisposing, if not of more active, agency.

Many writers upon rachitis and its kindred affections ascribe to the operation of the scrofulous and tubercular cachexies a very considerable share in the causation of the first named diseases. Dr. Beylard does not admit this idea, but asserts, on the contrary, that the former excludes the latter. In the Children's Hospital in Paris, it is observed that there is about one rickety child to eighty afflicted with scrofula; and the remark made by Rokitansky is a very cogent one in favour of this antagonism; he says of rickets: "It is associated with tubercle very rarely, *considering that the deformity of the thorax, which rickets frequently occasions, brings on conditions suited to the development of that disease.*" (*Pathol. Anat.* vol. iii. p. 174, Sydenham Soc. ed.)

Rickets affects *female* children rather more frequently than males. Thus, according to M. Guérin's observations (*Mém. sur le Rachitis*), of 346 cases of the disease, 198 were girls, and 148 boys; Dr. Beylard admits this proportion. *Osteomalacia* likewise manifests a decided preference for the softer sex according to Marjolin, in the proportion of 20 to 1 of the male; to Gaspari, of 13 to 3; to Beylard, of 36 to 11 (p. 31). Thus it will be seen that females are even considerably more commonly the subjects of osteomalacia than of rickets. This circumstance is generally attributed to the influence of *gestation* in the adult female, which is, accordingly, by most writers considered as a powerful determining cause of softening of the bones. In 36 cases of this affection collected by Dr. Beylard among women, 15 of the patients had had children; in 16 no mention is made with reference to this point;

and the remaining 5 were girls who had had no children. Some writers have gone even so far as to maintain that there is a necessary connection between pregnancy, and lactation, and softening of the bones. Thus, M. Gubler (quoted at p. 19) contends that pregnancy *commonly* produces a certain degree of this condition. His chief arguments in support of this idea are, that phosphatic earths are largely excreted in the urine of pregnant women, as in that of persons suffering from rickets or osteomalacia; that reparation of injuries to the bones of pregnant women takes place tardily and imperfectly, as in the diseased states just mentioned; and he considers "the puerperal osteophyte," found so frequently on the internal face of the cranial bones of women who have died subsequently to conception, as the result of an effort of nature to repair a softened condition of those bones, similar to the process occurring in rickets. So that, according to M. Gubler, "osteomalacia, properly so called, which most commonly follows pregnancy, is but a more advanced step of the same rudimentary, and as it were normal, softening of the bones which has been hitherto misunderstood."

But such arguments as these, urged as conclusive and exclusive for M. Gubler's position, are worth nothing; for, first, cases of mollities ossium are not very infrequent in which the urine exhibits no phosphatic deposits (Stanley *on Diseases of Bones*, Am. ed. p. 191; M. Curling, *Med. Chir. Trans.* vol. xx. p. 371; Mr. Solly, *Med. Chir. Trans.* vol. xxvii. p. 441); and, moreover, the presence of phosphatic earths even in large quantities in the urine is of very common occurrence when the nervous system is in a depressed condition generally or locally, owing to functional as well as organic disturbances of the cerebro-spinal or organic nervous centres, without the osseous system being at all implicated. Secondly, the instances in which union does not occur after fractures in pregnant women are exceedingly exceptional, as is evident upon reference to statistical tables of fractures. Indeed, pseudarthrosis in the female is infinitely more rare than in the male; Dr. Norris (*American Journal*, Jan. 1842), in 147 reported cases found but 18 accredited to females; and Malgaigne (*Traité des Fractures*, p. 139) never saw but one instance of false joint after fracture in a female, and in this the patient was only three years old. The same inference is deducible from the remarkable paucity of recorded examples of non-union. Walker, of Oxford, met with only 6 or 8 in about 1000 fractures in both sexes; Liston saw in his large practice only 1; Peirson only 1 in 367; at the Pennsylvania Hospital, in 946 fractures treated from 1830 to 1840, not an instance occurred; according to Mr. Lonsdale, in nearly 4000 fractures brought to the Middlesex Hospital during ten years, only 5 or 6 examples of non-union were seen. (*Malgaigne.*) Now, if pregnancy or lactation necessarily induced a disposition even to a diminution of reparative action in the osseous system, records of non-union after fractures, and various other evidences of impaired and defective nutrition in the bones of pregnant and nursing women, would be much more common than they really are, for they are as liable to fracture as others. Finally, if "the puerperal osteophyte" is truly the expression and the result of a reparative action set up to remedy a precursory softening of the inner surface of the cranial bones, we should expect to find here and there patches of softening, at which points the reparation had not as yet commenced; but neither Rokitansky nor Ducrest makes any mention of such observations.

We take the opportunity of correcting here a mistake into which Dr. Beylard has inadvertently fallen. He speaks, at p. 19, of M. Ducrest as having discovered the existence and frequent occurrence of these osteophytic productions upon the inner surface of the crania of women who had died during or

after pregnancy. This interesting discovery was made by Rokitansky, in Vienna; and the first account of the same was published in the *Oest. Medic. Jahrbüch*, vol. xv. (Rokitansky's *Pathological Anatomy*, vol. iii. p. 208, Syden. Soc. ed.). In fact, M. Ducrest himself mentions, in his essay (*Mém. de la Soc. Méd. d' Observation*), that a friend had informed him that a paper upon this subject had already been published "in a German journal," which, however, he (Ducrest) had not seen.

But to return to the relation existing between the puerperal condition and osteomalacia. Dr. Beylard, as does every other writer, acknowledges that a connection of some sort does exist between them, although he does not adopt the extreme views just alluded to. He expresses himself thus:—

"The influence of gestation or of parturition is indeed manifest upon the development and progress of the disease; for, after each renewed conception, there is a very sensible aggravation; the number of repetitions, however, is but of secondary consequence, the disease showing itself as well after a second or a third confinement, as after a fifth or a sixth." (p. 32.)

This effect may be merely accidental, induced by the impoverished nutrition and the depression which pregnancy and suckling, particularly if frequently repeated, are so often seen to occasion among the poor. Or it may be, indeed, as many suppose, a consequence of the abstraction from the blood of the mother, during the period of pregnancy and lactation, of the earthy materials which are essential to the constitution of the tissues, especially the osseous, of the child. So long as a proper supply of food is furnished to the parent, her assimilative functions being in a healthy condition, these elements are derived from the blood thus formed; but, under less favourable circumstances, it is probable that those of her tissues which contain the earthy elements most abundantly, or in a form most easily acted upon, will be deprived of them to the requisite degree. This supposition receives countenance from the observations that the teeth of pregnant women frequently become carious, and even loosened in consequence of absorption of the alveolar processes and enlargement of the sockets (Hohl, *Zur Pathologie des Beckens*, p. 99; Leipzig, 1852); that pregnant women very commonly manifest a craving for earthy matters; that, if fowls be deprived of their accustomed allowance of calcareous food, the eggs which they lay are destitute of a firm shell, their bones become softened and are easily broken, and the bones of their young are soft and flexible; it was observed, moreover, in some of these experiments, that death was preceded by colliquative diarrhœa, as is often the case in the human sufferer from mollities ossium, agreeably to the experience of Dr. Beylard (p. 49), and others (Henle, *Rationellen Pathologie*, vol. ii. p. 372).

The influence of *age* upon the production of rickets and osteomalacia is next inquired into. Of the three hundred and forty-six cases of rickets, adduced by M. Guérin, two hundred and nine became affected before the commencement of their fourth year; of these two hundred and nine, one hundred and seventy-eight began to suffer during their second year, and ninety-eight during their first. The majority of cases seen by Dr. Beylard occurred towards the close of the first year, or during the first six months of the second; and the frequency of their occurrence diminishes rapidly after this early age, until the period of puberty is passed, when the same disease, as Dr. Beylard thinks, again exhibits itself under the title of "osteomalacia," "rachitis adultorum," &c., its most common period being the ages of thirty and forty, after which it becomes more infrequent.

Dr. Beylard seems to have entirely overlooked an important contribution to this part of the pathology of the osseous system, by Dr. Elsässer, of Stuttgart.

This essay (*Der weiche Hinterkopf*, Stuttgart, 1843) possesses the more interest and consequence, because, although the occurrence of rickets during the first months of infantile life, and even as a congenital affection, had been long before witnessed and recorded by many writers, its frequency had, previously to Dr. Elsässer's publication, been very much underrated. This gentleman saw *forty* cases of this disease in five years, and in most of these the first symptoms manifested themselves within the *first six months after birth*, a period much earlier than that which is generally, and, by Dr. Beylard, assigned as the era of the ordinary invasion of rickets. Dr. Elsässer applies the terms "soft *occiput*, or *craniotabes*," to the particular phase of this affection as he observed it, because it attacked the cranial bones, and especially the occipital bone, producing in these changes precisely analogous to those which rickets occasions in other parts of the skeleton. When a cure was accomplished, which was the case in twenty-six of the forty cases, it was by an improvement of the general health, and by induration and consolidation of the previously softened bone, as in older persons; moreover, it not infrequently happened that other bones became involved in the disease either subsequently to its cure in its original seat, or while it was still progressing there. Like rickets and mollities ossium, as described by other writers, the craniotabes of Dr. Elsässer exhibited its dyscrasic character by the evidences of deranged health and its erratic and diffused attacks on various parts of the skeleton. We cannot forbear quoting one of the conclusions which the author draws from his observations upon this disease in all periods of life; we think it may serve to explain why, at particular epochs, it should preferably affect particular portions of the osseous system. "The erratic character of rickets is a fact beyond dispute. The rule, according to which this wandering of the disease takes place, is intimately connected with the phases of development of the principal parts of the body. It usually establishes itself in whichever part the vegetative and functional endowments are in the most active and energetic state of development. In this respect, the head, thorax, and extremities may be distinguished. With the changes in the development of the viscera, there takes place a corresponding change in the development of the bones which inclose them." (See a notice of Dr. Elsässer's book, in the *British and Foreign Medical Review*, vol. xvii.)

The symptoms of the disease in the youth and in the adult are next investigated by Dr. Beylard, and carefully compared the one with the other. It is unnecessary that we should accompany him through all these details. Suffice it to say that, viewing the entire range of symptoms, we have in no other essay upon this subject met with a more full and minute account of the progress of the disease, from the first exhibition of mere functional derangement of various organs to the fully-established change of structure in the bones themselves. The author thus indicates the conclusion at which he arrives from his careful comparison of the symptoms of softening of the bones at different ages; a conclusion, let us observe, in which he is sustained by the facts adduced.

"From the comparison which we have just presented of the symptoms of softening of the bones at different ages, it is seen that most of them completely accord with each other. If there is some slight differences, if the assimilation is not greater, it is in consequence of the rarity of rickets among adults. After a while, when the number of cases recorded shall have become increased so as to permit of a more thorough investigation, we have no doubt but that these discrepancies will be entirely reconciled." (p. 98.)

And again, at p. 100, he says—

"It is evident, from the parallel which we have instituted, that there is not a single symptom belonging to one of these two affections which is not common also to the other, in a different degree, it may be; but the physiological differences of the ages are so marked that they necessarily exert an influence upon the pathological phenomena."

Dr. Beylard would have made his position still stronger in favour of the identity of the two, if he had compared in a more direct and pointed manner that portion of the skeleton upon which rickets and osteomalacia are stated to impress their most distinctive characters, and to the peculiarities of which the supporters of the diversity of the two affections most complacently refer. We allude to the *pelvis*. It is undoubtedly a striking fact that at different periods of life the same disease should affect different parts of the osseous system, differently affect the same part, and even seize upon different portions of the same bone. Thus, admitting that rickets and osteomalacia constitute a pathological unit, we find it, according to Elsässer, most commonly attacking the cranial bones in the earliest months of infantile existence; a little later manifesting itself most constantly in a series of enlargements at the sternal extremities of the ribs, in connection with other modifications of the thoracic parietes—the whole forming a group of evidences much more pathognomonic, as Dr. Beylard thinks (p. 41), than any other at this age. Still farther on in childhood, the most prominent changes seem to be the enlargement of the articular extremities of the long bones (which is rarely seen after the age of fifteen to twenty, according to Dr. Beylard), the curvature of their shafts, and the consequent shortening of these bones; this category of symptoms is so constant in childhood that, in one hundred and ninety-six cases reported by Guérin, he saw but eleven in which there was not swelling of the epiphyses and diminution in the length of the long bones. In adult life the spinal column and the pelvis are the especial sufferers, the latter having impressed upon it such alterations of form as, agreeably to many very distinguished pathologists, permit it to be recognized and distinguished as the *osteomalacia*, in contradistinction to the *rachitic* pelvis. It is upon the truth or falsity of this assumed characteristic difference, we would have had Dr. Beylard more argumentative.

He says, at page 40, in speaking of the effects of *rickets*: "The bones of the pelvis become flattened (*s'applatissent*), and everted (*se renversent en dehors*); the diameters are shortened, the sacro-vertebral angle becomes more prominent, the ischia approach each other." We believe that the chapter on the symptomatology of rickets contains no other mention of pelvic deformity than the above. At page 52, he remarks, with reference to the influence of *osteomalacia* upon the adult pelvis: "The bones of the pelvis are spread out (*s'étalent*), the diameters are diminished, the crest of the ilium is everted (*se renverse en dehors*), and the sacro-vertebral angle is thrown forwards;" the chapter on the symptomatology of osteomalacia makes no other mention of the peculiar alteration impressed upon the shape and dimensions of the pelvis; and in that in which the symptoms of the two affections are compared, there is nothing more explicit or satisfactory upon this point. (*Vid.* pp. 92–3.)

The characteristics of the *rickety* pelvis, as given by Kiwisch (*die Geburtskunde*, ii. Abth. s. 178), are "more or less remarkable smallness of the pelvis as a whole; diminished height of the same; compression of the pelvis in the direction of the conjugate diameter, so that the sacrum is thrown nearer than normally to the anterior wall of the pelvis, while its lateral parietes are more widely separated from each other. There is also a widening and flat-

tening of the pubic arch; an increased inclination forwards of the upper part of the sacrum, with a coincident recession of the inferior portion, whereby the straight diameter of the outlet of the cavity is relatively increased in length; a diminution of the concavity of the sacrum, of the pubes, and of the inner face of the iliac fossæ. A very common circumstance, likewise, is a more or less considerable lateral deviation of the sacrum, so that the pelvic cavity is rendered unsymmetrical." The same author gives the following as the most common form of the *osteomalacic pelvis*, p. 179: "The deep, almost excavated concavity of the iliac fossæ; the abnormal shape of the superior strait (like that of the heart on a playing-card); the unusually deep situation of the promontory of the sacrum, which is about opposite the middle of the pubic symphysis; the moderately beak-shaped projection of the anterior wall of the pelvis; the bending of the inferior portion of the sacrum, and the narrowing of the pubic arch." Now, it is evident that deformities of this kind, which depend chiefly upon the influence of pressure exerted upon the parietes of a cavity rendered pliable by softening of the bones which form them, must be gradually produced; and that, consequently, the degree and kind of deformity must vary according to the duration of the disease, the age of the patient, and the direction in which the pressure had been most exerted, *i. e.*, whether the individual had been confined to bed, occupying chiefly a position upon one or the other side, or whether her circumstances in life had necessitated, and the gradual progress of the disease had permitted her to continue more or less, the fulfilment of ordinary employments, in standing, sitting, walking, &c. Accordingly, all writers upon pelvic distortions describe numerous grades and forms which pass in a measure, by hardly perceptible degrees of difference, into each other. Thus, Kiwisch (*loc. cit.*) describes a rachitic pelvis, which he acknowledges at first sight is not to be distinguished from a genuine osteomalacic deformity. Rokitansky (*Pathol. Anat.* vol. iii. p. 177, Sydenham Soc. ed.), speaking of the deformities induced by mollities ossium, says: "But these are not the invariable shapes; and the peculiar form of the pelvis" (the triangular, in which the shape of the superior aperture is like that of the heart on a card) "is not exclusively a result of mollities ossium, but is met with sometimes in bedridden persons who are the subjects of rickets in a high degree;" and again at p. 259, in describing the deformities of the pelvis, the same distinguished author observes: "The triangular pelvis is, for the most part, a result of mollities ossium; but it is an error to ascribe it exclusively to that disease. Mollities ossium may undoubtedly be the cause of every advanced and decided degree of triangular pelvis, but minor degrees of it are sometimes due to rickets." From these quotations it is evident that these two pathologists, though among the strongest advocates for the essential difference of the two, yet virtually admit that, so far as the pelvis is concerned, the distortions induced by them are but grades of the same.

Hohl (*op. cit.*) describes and figures several rachitic pelves, in some of which the deformity partakes of the character ascribed to the rachitic as well as that appropriated to the osteomalacic, *i. e.*, some of the bones are deformed after one fashion, and some after the other; and in two cases the appearances are not all those of the formula of the rachitic, but agree entirely with that of the genuine osteomalacic pelvis.

From these facts it would seem that, as too often happens in medical writings, a too hasty generalization has been made; the modifying influences of age, duration, progress, and stage of the disorder, habits of the patient, normal differences in the physical and chemical properties of the tissue and part implicated, &c., have not been sufficiently considered before assigning to a

particular group of symptoms or lesions a shelf apart in the nosological cabinet. And we would remark that inattention to these circumstances has not induced error with relation to the pelvic deformity alone. Rokitansky has stated (*op. cit.* p. 178) that in osteomalacia "the bone undergoes a striking change in its chemical composition, the extract produced by boiling being not only different from chondrin, but also from the animal matter of bone. Upon this last-mentioned character of mollities ossium very probably depends not only an essential difference between it and rickets, but also its malignancy; it is a very painful disease, and hitherto has never been cured." Without stopping to refute the asserted speciality of mollities ossium, as evidenced by the peculiarities mentioned in the last part of the quotation, we will simply state, on the authority of Hohl (p. 73), that if the bones of rickety children be examined at a certain period of the disease, viz., that which ushers in the reparative stage, it will be found that in these also the extract obtained by boiling is identical neither with chondrin nor with the peculiar animal matter of bone. Differences such as this should not surprise us, since we know that the chemical composition of bone varies at different ages, and even in different bones of the same skeleton. (*Vid.* paper of Dr. Rees "On the Chemical Constitution of the Bones," *Med.-Chir. Trans.* vol. xxi. pp. 406–413; *Simon's Chemistry*, vol. ii.)

Dr. Beylard next examines the pathological lesions produced in the osseous system, assigning to each of the two affections a separate chapter, and in a third the appearances found in each are compared; considerable space is likewise devoted to "*fragilitas ossium.*" We cannot too highly commend the author for the able manner in which he has executed this part of his task. The details into which he has gone occupy more than 100 of these large and generally closely printed pages, and great industry was of course required to collect and arrange them; great candour and intelligence, too, are exhibited in their examination, and in the estimation of their absolute and relative importance. We quote the following general conclusions which he deduces from his laborious examination:—

"1. The three morbid states known as rickets, fragility, and osteomalacia, are identical in their nature, and constitute at most but three forms of one and the same nosological species; 2. If these three forms of a single disease have been separated into as many distinct affections, it has been because osteomalacia proper has been confounded with other alterations of the skeleton which are essentially different from it, and which have no other resemblance to it than the deformities which they occasion; or, because the authors of this separation have been contented with considering circumstances of merely secondary importance, such as the predominance of fragility or of softening, forgetting the impropriety of establishing distinct diseases simply upon varying degrees of a single symptom." (p. 227.)

Upon the *nature* of this interesting but obscure disease, Dr. Beylard throws no new light. Having already, in his preliminary historical sketch, alluded to several of the speculations concerning its essence, in this chapter he merely enumerates some others of the more prominent ones. In the concluding paragraph, he expresses the following cautious opinions:—

"Unfavourable hygienic conditions, an improper alimentation, are the most frequent causes of softening of the bones; its obscure and slow progress induces us to regard it as a lesion of nutrition which often induces a true cachexia. We do not deny, however, that in the course of its development an inflammatory condition may arise; the pain, the general exaltation of the animal temperature, with acceleration of the pulse, the swelling and the vascularity of the tissues, constitute a group of symptoms which it is difficult not to attribute to

inflammation. But is not this merely a secondary effect, and ought it not to be looked upon but as a means instituted by nature to repair the numerous lesions to which the whole osseous system has been subjected?"—(p. 231.)

We must certainly agree with the author as to the difficulty, at present, of unravelling this tangled skein of contradictory and conflicting statements. But we suspect that some part of the difficulty arises from the fact that several distinct diseases, apart from the scorbutic, syphilitic, and cancerous cachexias, have been represented in the motley array of bones assembled under the special banner of *osteomalacia*. We think there can be little doubt that, with reference to very many of the cases adduced, the diseased condition of the bones is to be ascribed to atrophy with fatty degeneration; such are certainly some of those specimens taken from persons of advanced age, or in whom senility had been prematurely induced, in both cases the morbid manifestations in the osseous system being accompanied with a similar degeneration of other tissues. Mr. Paget thinks that, perhaps without exception, the cases described by English writers as mollities ossium are examples of atrophy with fatty degeneration. ("Lectures on Nutrition," in the *Lond. Med. Gaz.* May, 1847; also, the *Pathol. Catal. of Royal Col. of Surgeons*, vols. ii. and v.) The texture of the bones in such cases has become exceedingly porous and light, the earthy constituents are diminished, or entirely wanting, and the animal matter no longer resembles the original; "therefore, the bones are not composed of the original animal part, but a new deposit of animal substance in a new form." (John Hunter, in *Pathol. Catalogue of Royal Col. Surg.* vol. ii. p. 28.) And again, the same illustrious man, in describing a particular specimen sent to him, says: "The component parts of the bone were totally altered, the structure being very different from other bones, and wholly composed of a new substance, resembling a species of fatty tumour, giving the appearance of a spongy bone deprived of its earth, and soaked in soft fat." The medulla of the bone, too, is changed, consisting of "free oil in great quantity; crystals of margarine, free or inclosed in fat-cells; a few fat-cells full of oil, as in health; but many more empty, collapsed, and rolled up in strange and deceptive forms. The pink and crimson colours are owing to part of the oil-globules, and to the nuclei and granules in the collapsed fat-cells, being thus coloured; and there is no appearance whatever of an excess of blood in the bone, or any of its contents." (Paget; see, also, Mr. Curling's paper, *op. cit.;* Rokitansky, *op. cit.* vol. iii. p. 178; Günsburg, *Pathol. Geweb.* vol. ii.; Gluge, *Atlas der Pathol. Anatomie.*)

Relying upon this latter statement of Mr. Paget, as to the absence of evidences of inflammation of the numerous bones which he has examined and described, we see not how to avoid admitting that many other specimens of bones of children and of adults, usually considered as indicating the existence of the specific morbid process called softening, are really indicative of the operation of an *inflammatory process*. But the microscopical and chemical examinations of the bones are hitherto so unsatisfactory upon this point as not to warrant any very positive conclusion concerning it. The majority of those who have written upon this subject agree in describing the diseased bones as being abnormally vascular, and the periosteum red, thickened, and closely adherent to the superficial lamina of bone, so much so as sometimes to drag with itself, when torn off, a layer of the expanded and spongy tissue. (Rokitansky, Beylard, &c.) But the existence of exudation or inflammatory globules in the pulpy matter found so largely in the medullary cavity and the cancellated structure of the bones, is by no means demonstrated, as a general rule, though this has been the case in some instances, and in some also pus

has been seen, as in the cases alluded to by Dr. Beylard. This opinion of the inflammatory nature of the changes receives some countenance from the pain and fever which usually accompany the disease throughout its whole progress. We should add, too, that this view is entertained by many eminent pathologists, among whom may be enumerated Henle, Mr. Solly, Schmidt, &c. The important question proposed by Dr. Beylard, and which we have already quoted, as to whether the inflammation is to be considered as the primary cause of the morbid appearances and symptoms, or only a secondary and reactionary effect, subservient to reparation, is, however, not at present susceptible of a satisfactory elucidation.

But it is not improbable that, admitting that some of the cases of rickets, or osteomalacia, are due to a fatty degeneration affecting the bones in common with other tissues, and that others again are to be ascribed to inflammation of a comparatively mild grade and of a modified character, there is yet a third group which may be regarded as the effect of some peculiarity of nutrition, different from the two which have been named, whereby a free acid is generated which liberates the phosphate of lime deposited in the bones, or prevents the proper deposition of this salt, and permits the latter to be thrown off in the urine. This acid is generally supposed to be the *Lactic.* The chief arguments in support of the supposition are: the remarkably large amount of phosphates contained in the urine of rachitic patients, leading even to the frequent formation of phosphatic calculi; the presence in quantity of acid in the alimentary canal, and the copious acid sweats. That the acid is the lactic is maintained from the fact that the disease is most prevalent in pregnant and nursing women, and in infants and young children; and that lactic acid may sometimes be detected in the interior of the diseased bones. (Schmidt, in Henle, *op. cit.* p. 371.) The earthy matter being in this way removed from the bones, and the latter being left in a diseased condition, the appearances of inflammation which they present may be the result of the reparative effort established to remedy the lesion.

The chapter on the *Diagnosis* of rickets is very well written, and presents to the reader an excellent bird's-eye view of the whole subject. Next follows a short chapter on the *Prognosis;* and the volume concludes with quite a detailed exposition of the treatment to be pursued in this most pitiable disease.

Dr. Beylard recommends most highly the cod-liver oil, in conjunction with good diet and proper hygienic means. And it would appear from his statements that the fish-oil may be with equal advantage replaced by *butter*—a pleasant exchange, truly.

In terminating our notice of Dr. Beylard's book, we must not neglect to mention that it contains a great many histories of cases of rachitic disease, which are in themselves of immense importance to the student. He has also appended a very copious bibliographical index, which contains, with few exceptions, all the desirable references to the subject of which he has been treating.

It is scarcely necessary for us to express formally our high appreciation of this work, because this has repeatedly escaped us in the course of our remarks. We now take our leave of the author, in the confident hope that the industry and intelligence which he has displayed in his Thesis will characterize and reward his future labours in the field which he has selected.

F. W. S.

ART. XXII.—*De Adipis Concoctione et Absorptione. Scripsit* ED. LENTZ. Mitaviæ, 1850. 8vo. pp. 94.

De Bilis Functione ope Fistulæ Vesicæ Felleæ indagata. Scripsit REINHOLD SCHELLBACH. Mitaviæ, 1850. 8vo. pp. 44.

On the Digestion and Absorption of Fat. By ED. LENTZ.

The Function of the Bile investigated in a Case of Fistula of the Gall-Bladder. By R. SCHELLBACH.

THE modification which fatty matters, taken into the stomach as food, undergo prior to their absorption by the lacteals, and the agents by which that modification is effected, are still subjects in dispute among physiologists. As fat is but slightly, if at all acted upon by the digestive fluids of the stomach, it is evident that whatever changes it undergoes to fit it for absorption must take place mainly in the intestines. Here it is supposed by some to undergo a chemical modification by its combination with the bile, with the pancreatic juice, or with certain alkaline secretions furnished by the intestinal mucous membrane; by others, it is maintained that the only change effected in it is a mechanical disintegration—an emulsion being formed by its combination with the bile, pancreatic juice, or the other intestinal fluids, either singly or collectively; while a third party consider that it is merely liquefied by the heat of the stomach and intestines, and in this state is taken up by the absorbents.

The doctrine of the chemical action of the bile upon the fatty or oily substances taken into the stomach as food—the change of these by the bile into a kind of soap—is a very old one. It is laid down by Haller, who cites as its supporters, among his predecessors and contemporaries, Steller, Floyer, Dossie, Baglivi, Vischer, Hoffman, and Homberg.

Among the modern physiologists, the same opinion is advocated by Leuret and Lassaigne, and by Valentin, although the latter does not appear to consider the saponification of fat by the bile as essential to its absorption.

The arguments adduced by Haller in proof of the action of the bile upon fatty aliment are altogether inconclusive. They are derived from the appearance of the alvine discharges in jaundice, and in obstructions of the biliary duct; from the white discharges which occur in infants, and from the fact that bile will remove the stains produced by oil. These arguments are examined in detail by Dr. Lentz, who remarks that certain modern physiologists, as for example Canstatt, in his *Manual of Clinical Medicine*, published in 1845, admit that fat is one of the excrements voided by patients labouring under jaundice and calculus of the gall-bladder. But, he adds, in all these observations, we look in vain for the chemical demonstration of the presence of fat in the excrements, for an accurate computation of the fat consumed by the patients, and for the proof of any positive connection between the presence of fat in the excrements and the disturbance of the biliary secretion. It is to be recollected that jaundice frequently occurs without any trace of fat in the discharges per anum. The fact of the occurrence of fat in the stools, Bernard adduces in evidence of a diseased condition of the pancreas.

The discharge of fat from the bowels may, however, take place independent of disease of either of the organs concerned in digestion. The digestion of fat is not effected to the same extent in every individual and at all times, even in a state of the most perfect health; consequently, when an excess of fat is taken into the stomach, the portion not absorbed by the lacteals will be found to pass off from the bowels mixed with the feces.

Dr. Lentz admits that the bile will dissolve the fatty acids which have an affinity for the alkaline portion of the bile, and hence will remove grease spots whenever the fat, by which they are produced, has become changed into an acid. This is the same explanation as that given by Bernard. "Nevertheless," remarks the latter, "it is known that bile will remove the stains produced by grease; we obtain the explanation of these facts, in appearance contradictory, when we learn that the bile dissolves the fatty acids."

"A direct experiment performed by me," says Dr. Lentz, "proves that bile will form salts with the acids of fat. By a solution of caustic potass, olive oil was converted into soap, and the alkali afterwards separated by muriatic acid; 11,5 CC, of the strained oleic acid, with the same quantity of recent ox bile, was combined by agitation, and the mixture was set aside for six days in a temperature of 35° C. After twenty-four hours, it presented three different strata, which became more and more distinctly separated. On the sixth day it was found that the inferior stratum consisted of pure bile, equal to 10 CC; the superior stratum, consisting of oily acids, equalled 7,5 CC; while the middle stratum was of a pale greenish colour, and equal to 5,5 CC. It was soluble in water, to which it imparted a greenish hue, and presented under the microscope a multitude of crystals. Upon the addition of a small portion of ether, it yielded a quantity of free oleic acid, and treated with muriatic acid it divided into two strata, of which the superior consisted of oleic acid, and the inferior of a solution of the muriate of soda. A similar experiment with the bile of a dog was subsequently performed with the same results.

"There can be no doubt, therefore, that the union of the bile and fatty acids forms a species of soap soluble in water; and, consequently, that, by its union with the acids of the fat in the intestinal canal, the bile may favour their absorption."

The errors and inconclusiveness of the experiments of Leuret and Lassaigne, undertaken to prove the direct agency of the bile in the digestion of the food, are very clearly pointed out by Dr. Lentz. In the experiments of Tiedemann and Gmelin, undertaken to test the power of bile to dissolve fat, a negative result invariably ensued; which is also the experience of Eberle, and more recently of Frerichs.

Dr. Lentz repeated the experiments of Leuret and Lassaigne, to show the action of bile upon crude flesh; from the result of which he infers that the loss of weight which portions of flesh occasionally undergo when subjected to the action of bile out of the body does not depend upon the solution of the fat they contain, inasmuch as a similar loss occurs when distilled water is substituted for the bile, in which latter case it is evident that no solution of fat can take place.

Some recent physiologists believe that the digestion of fatty aliment is due entirely to a chemical change produced in it by the pancreatic juice.

Bernard was the first to demonstrate that out of the animal body the pancreatic juice has power to separate the acids existing in neutral fatty matter from their bases. Frerichs refers to the experiments on this subject performed by Bernard, and to the confirmation of their accuracy by the Parisian academy, but, in adopting their conclusions, does not intimate whether these were tested by himself, upon a repetition of the experiments. Nevertheless, as Dr. Lentz remarks, these experiments have been repeatedly performed and always with the same results; but, he adds, let us inquire whether the same result is also produced in the animal body during life by the action of the pancreatic juice upon neutral fatty substances. To this intent, three cats were fed by him upon butter and killed, the one six, the other fourteen, and the third twenty hours after feeding, and the contents of the stomach, intestines, thoracic duct, vena portæ, and gall-bladder examined, but not a vestige of butyric acid could be

detected, notwithstanding all the chyliferous vessels, as well as the thoracic duct, were turgid with milky chyle.

The abdomen in two cats, that had been kept from food for thirty-six hours, was laid open by an incision along the linea alba; the duodenum, with the pylorus, were then brought out at the opening, and a ligature was applied near to the latter so as to prevent the passage of the gastric juice into the intestine. A few lines below the ligature, a small incision was made into the duodenum, through which a quantity of liquefied butter was introduced, its escape being prevented by another ligature applied above the openings of the ductus choledochus and the duct of the pancreas, so as to allow the bile and pancreatic juice to enter freely into the intestine. The duodenum being returned into the abdomen, the wound of the latter was closed by a few stitches. The one animal was killed at the termination of nine, and the other at the termination of eleven hours. In both, the contents of the intestinal canal, which had lost its normal temperature, exhaled very distinctly the odour of butyric acid, and when tested with litmus paper indicated their acid character. But in neither animal was the odour of butyric acid evident in the contents of the thoracic duct, vena portæ, or gall-bladder, whether these were examined when cold or after being warmed, nor could any trace of this acid be detected when they were tested by the action of heated sulphuric acid.

In order to test whether, in the experiments just related, the butyric acid was developed solely by the spontaneous decomposition of the butter at the temperature of the animal body, in the short period indicated, or by the action of the pancreatic juice upon the butter introduced into the intestines, Dr. Lentz repeated the same experiments upon three cats, with this difference, that the upper ligature, instead of being applied near the pylorus, was passed below the orifices of the pancreatic duct and ductus choledochus, so that in these experiments not only was the gastric juice excluded from the intestines, but also the bile and pancreatic juice. Neither of the animals was permitted to partake of food for thirty-six hours previous to the operation. Through an opening made into the duodenum below the ligature above described, a quantity of butter was introduced, the escape of which was prevented by the application of a second ligature, as in the preceding experiments. One of the cats was killed seven hours subsequently, and the other two five hours later. In neither could the odour of butyric acid be detected in the contents of the intestines, thoracic duct, gall-bladder, or vena portæ, nor was any trace of acidity detected by litmus paper.

Five other experiments were performed by tying the pancreatic duct in cats above its termination in the duodenum, so that all the digestive fluids, with the exception of the pancreatic juice, found their way into the intestines, and once in a cat in which the pancreatic duct and ductus choledochus were both tied above their opening into the duodenum, the bile being allowed to flow exteriorly through a fistulous opening in the gall-bladder. In four of the animals, no trace of butyric acid could be detected in the contents of the intestines, in the bile or in the blood of the vena portæ; nor in the contents of the thoracic duct, in the one animal in which alone these were examined. The examination was made, in one case, six hours after feeding; in a second, fourteen hours after feeding; in a third, thirty hours after one meal, and eight hours after a second; in a fourth, forty-eight hours after one, and five after a second meal. In the fifth experiment, the animal was killed twenty-seven hours after one meal and six after a second; from the contents of the large intestines, the butter they contained was extracted by means of ether; the ether being then evaporated, and the remaining fatty matter treated by heated sulphuric acid, it gave out a very decided odour of butyric acid.

The sixth animal, in which both the pancreatic duct and ductus choledochus were tied, was killed forty-eight hours after one, and nine hours after a second meal. Neither the contents of the intestines, those of the thoracic duct, nor those of the vena portæ, exhaled any odour of butyric acid.

From the foregoing fourteen experiments, Dr. Lentz draws the following conclusions:—

1st. Fat contained in the chyliferous vessels enters these, in the greatest amount, at least when nothing disturbs the normal process of absorption, in its neutral state.

2d. Fat, if it be exposed for any time to a degree of heat equal to that of the intestinal canal of the mammalia, in the absence of the pancreatic juice, may become decomposed, spontaneously, in the animal body, into its acids and their bases, as is shown by the thirteenth of the series of experiments described above.

3d. The acid of the gastric juice impedes the decomposition of neutral fat by the pancreatic juice, in the animal body.

To test the truth of these three propositions, Dr. Lentz performed a number of experiments out of the body by the admixture of pancreatic juice, gastric juice, and bile with neutral fat, as presented in the form of butter, and with starch. The results of these experiments were as follows:—

1. Although, when pancreatic juice was largely diluted by the addition of distilled water, so that the latter was as six or twelve parts to one of the former, its action upon neutral fats was not impeded.

2. Nevertheless, when a large quantity of bile was added to pancreatic juice, so that the former was as thirteen or seventeen parts to one of the latter, the action of the pancreatic juice in the decomposition of neutral fats, and in the transformation of starch into sugar, was impeded.

3. Gastric juice impeded the action of the pancreatic juice upon neutral fats, and the more so the greater the amount of acid the former contained; so that sometimes the action of the pancreatic juice was entirely suspended. This effect of the gastric juice was exhibited even when the amount of the latter was less than that of the pancreatic juice (100 parts pancreatic juice, and 74 parts of gastric juice), generally when the quantity of the latter was double that of the former, and always, when it was four times or more.

4. The admixture of gastric with the fluid of the pancreas did not impede, in the same manner, the action of the latter in the conversion of starch into sugar.

5. This effect of the gastric juice in impeding the action of the pancreatic fluid upon fatty matter was destroyed by neutralizing the acid contained in it, either by the soda of the bile, or by the addition of caustic potass.

6. The action of the pancreatic juice upon neutral fats was also impeded by the addition of other acids than that of the gastric juice, and was again restored by the neutralization of these by the soda of the bile.

Dr. Lentz remarks that, if the above deductions from the experiments performed by him are correct, it is easy to understand why, in the living body, the gastric juice, under favourable circumstances, should not impede the solution of the neutral fats by the pancreatic juice. This effect of the gastric juice being prevented, if the alkaline fluid with which it is mixed is sufficient to destroy its acidity; the pancreatic juice then being enabled to act upon the fat in the neutral contents of the intestines.

As from observation it is found that the greater portion of the fat contained in the chyle is in a neutral state, it is manifest that the power of the pancreatic juice to decompose, out of the living animal body, neutral fats into acids and

their bases, contributes nothing to explain the manner in which the lacteals are enabled to take up neutral fat from the intestinal canal.

De Lentz adds, in a note, before it can be predicted with any degree of certainty whether neutral fat will be dissolved, within the living body, by the pancreatic juice, it would be necessary for us to determine the quantity of this fluid as well as of the gastric juice, of the proper intestinal fluid, and of the bile, that is secreted during digestion, as well as the amount of acid and of alkali contained in these secretions. It is probable that the condition of the food taken into the stomach exerts, also, some influence. If it contain a considerable quantity of alkali, it may facilitate the solution of the fat by neutralizing the gastric juice; while, on the other hand, if it contain a large amount of acid, it will impede the action of the pancreatic juice in its action on the fat.

Dr. Matteucci, of Pisa, reports some experiments to prove that the fatty portion of the aliment of animals undergoes a change to adapt it for absorption by the action upon it of the alkaline fluids secreted by the intestinal mucous membrane. His first experiment was performed by adding olive oil to a weak solution of an alkali, and then exposing the mixture to a temperature of 35–40° C. The mixture assumed a milky appearance, and separated into two strata, of which the upper remained opaque and contained globules of oil; the inferior stratum was less opaque, and had in all respects the appearance of milk. With this "*emulsion*" the doctor filled a portion of intestine, which, after securing the ends, he immersed in a similar weak alkaline solution, and exposed the whole to a temperature of 35–40° C., when, in accordance with the laws of the diffusibility of fluids, the contents of the intestine became mixed with the alkaline solution without. A second experiment similar to this was performed with a like result. An endosmometer, formed of the urinary bladder of an ox, was then filled with a weaker alkaline solution, and immersed in the emulsion above described. The emulsion passed into the alkaline solution, and elevated the column of liquor thirty millimetres.

In a third experiment, two funnels of equal size were filled with sand; upon this, in one, water was poured, and upon the other an alkaline solution, until these fluids passed entirely through the sand. An equal quantity of oil was now slowly poured upon the sand in both funnels. The oil was quickly imbibed by the sand imbued with the alkaline solution, but remained at the surface in the one containing the sand moistened with water.

Dr. L. frankly acknowledges that he cannot understand the idea Dr. Matteucci desires to convey by the term emulsion, used by him in the detail of his experiments. An emulsion, it is well understood, designates simply a minute mechanical distribution of oily particles throughout an aqueous fluid, by the intervention of some viscid matter which is miscible with both oil and water. Now it is evident that in the experiments of Dr. M. no such mechanical distribution of oil in an aqueous fluid could have taken place; on the contrary, a saponification of the oil was effected, as is always the case when oil is mixed with an alkaline fluid and exposed to an elevated temperature. If to this opinion it be objected that, in the first experiment, globules of oil were still present in the upper stratum of the mixture, the cause of this phenomenon can readily be explained by the fact that the alkaline solution was not sufficiently strong to convert the whole of the oil into soap; consequently, the portion that remained unchanged was found floating in globules upon the surface.

In regard to the experiment adduced to exhibit the endosmose of fat, this exhibits nothing surprising; between the solution of soap and that of alkali there exists a chemical affinity, and consequently their commixture is

readily explained by the laws of the diffusibility of fluids. But neither of Dr. M.'s experiments contributes anything towards the explanation of the process by which fat is adapted for absorption into the chyliferous vessels, inasmuch as the greater portion by far of the fat contained in the latter has been shown to be in a neutral form.

Now, Dr. L. concludes, it must be evident that, by the experiments he has detailed, the opinions which involve a chemical change of the neutral fat taken into the stomach as food, either by the bile, the pancreatic juice, or by the proper fluid of the intestines, in order to fit it for absorption by the lacteals, are refuted. Because, 1st, such a change has been shown not to have taken place in the fat contained in the chyle, or at least in by far the greater portion of it, by the chemical and microscopic examination of the contents of the lacteals.

Because, 2d, it has been proved that no one of the secretions by which such a change could be alone effected—neither the bile, pancreatic juice, nor the fluids secreted by the mucous coat of the intestines—has the power to decompose fat so as to separate its acids from their bases. But, on the contrary, in the living animal body, provided all the functions are in a normal state, the acid of the gastric juice prevents its occurrence.

By several modern physiologists it is supposed that the only change that fat undergoes, to adapt it for absorption by the lacteal vessels, is a minute mechanical division—its minute mechanical distribution throughout one or other of the fluids of the intestines, with which fluid the fat is supposed to form an emulsion.

Bernard supposes that it is the pancreatic juice by which this mechanical distribution of fat is produced; others ascribe this effect to the joint action of the bile and pancreatic juice, and others, again, to the proper fluid of the intestines.

These views are examined in some detail by Dr. Lentz, by whom the accuracy of the arguments and experiments adduced in their support is very carefully tested. By a series of experiments performed upon living animals, he has shown that the ligature of the pancreatic duct, or of the ductus choledochus, or of both, does not prevent the absorption of fat by the chyliferous vessels, while, indirectly, he proves, also, by a long series of experiments, that the supposed minute mechanical distribution of the fat taken as aliment is not effected by any or all of the other fluids usually present in the cavity of the intestines during life.

Boussingault performed a series of carefully conducted experiments upon ducks, to determine the quantity of fat absorbed from the intestines within a given period. From these experiments it would appear that the quantity of fat absorbed in one hour was very nearly the same, however abundantly the food may have been charged with fatty matter; thus, when the animals were fed on cacao, which affords about one-half its weight of a butyraceous matter, upon lard, or upon butter mixed with rice, the quantity of fat absorbed was limited to about eight decigrammes in the hour.

Now, as in all of these experiments the quantity of water taken by the animals which were the subjects of them, and the quantity of fatty matter consumed by them varied, how can the fact of the same amount of fat being taken up by the lacteals within a given period be explained upon the supposition that it is necessary to fit it for absorption that the fat should first be formed into an emulsion with some aqueous fluid? If this latter opinion be well founded, it would be reasonable to infer that the quantity of fat absorbed from the intestines would be in direct proportion to the quantity that

is formed into an emulsion within a given time, and which of course must vary with the quantity of fluid, as well as of fat, present in the intestinal canal. It may be affirmed, however, that the amount of fat formed into an emulsion adapted for absorption depends entirely upon the quantity of the agent through the intermedium of which its mechanical diffusion in an aqueous fluid is effected, and that this agent, existing either in the bile, pancreatic juice, or in the proper fluids of the intestines, or formed by a combination of one or more of these, is, under normal circumstances, furnished always in very nearly the same amount. But, if this be true, then whatever diminishes the quantity of this agent by which the emulsion of the fat is supposed to be effected, must necessarily diminish the absorption of the latter. To test this, Dr. Lentz has performed a number of very interesting experiments.

From these, it appears that, in animals fed upon aliment containing a large amount of adipose matter, there is absorbed from the intestines, within a given period, very nearly the same amount of fat, relative to the weight of the animal, under all circumstances. That is, whether the bile and pancreatic juice are freely secreted, or one or both of these fluids be prevented from entering the intestines. Hence we cannot assume that, to adapt it for absorption, the fat taken as aliment must be first converted into an emulsion by either or both of them. The agency of the proper fluid of the intestines, to which Valentin and Frerichs ascribe the office of converting fat into an emulsion, cannot, it is evident, be tested by direct experiment; but, as the only property possessed by it that can adapt it to the emulsion of fat exists also in the bile and pancreatic juice, and in the latter to a much greater extent even than in the fluid secreted by the intestinal mucous membrane, it must be evident that the influence of the latter in causing such emulsion cannot be superior, if equal, to that of both the others; and yet, although their exclusion must necessarily cause a less amount of the fat taken into the alimentary canal to be formed into an emulsion, still, as the experiments of Dr. Lentz prove, the amount of fat absorbed suffers no diminution.

The only remaining doctrine in relation to the state in which fat is absorbed by the lactiferous vessels, is that, in its neutral state, when fluid, it is absorbed without further change; but when solid, all that is necessary to prepare it for absorption is that it be liquefied by the heat of the intestinal canal. This is the opinion of Wagner, who supposes that, during digestion, the fat in a liquid state is absorbed by certain portions of the internal surface of the intestines while the aqueous fluids are taken up at other portions. Frerichs supposes the epithelial cells at the apices of the intestinal villi to preside over the absorption of fat.

Weber believes that, besides the epithelial covering of the villi there exists a stratum of cells of a globular form, some of which possess the power to absorb a white non-pellucid liquor, while others absorb a pellucid fluid like oil.

The opinion of Wagner, that during digestion the function of absorption is so distributed over the internal coat of the intestines that at some points always fat, and at others always aqueous fluids are taken up, affords no explanation, according to Dr. Lentz, of the manner in which fat is absorbed. It appears to him more probable that certain cells, or congregations of cells, have the sole faculty of absorbing fat, and which never receive any aqueous fluids. Such a hypothesis is perfectly consistent with the fact that a certain amount of fat, in proportion to the weight of their bodies, is absorbed from the intestines of animals in a given space of time. We are only to suppose that this fat-absorbing apparatus is limited in extent, varying only in proportion to the size of each animal, and we can readily understand that it will be able to take up and transmit only a certain quantity of fat in a given period of time.

The general conclusions legitimately deducible from the experiments of Dr. Lentz are:—

1. That the neutral fats are taken up by the lactiferous vessels, without any chemical change being previously effected in them by either the bile, pancreatic juice, or proper secretions of the intestinal tube.

2. That the minute mechanical division of fat in the tract of the intestines, or its change into an emulsion by the bile, pancreatic juice, or intestinal secretions, is in no degree necessary to fit it for absorption.

The following conclusions are, to say the least, rendered probable by the experiments performed by the author:—

1. That the change effected in neutral fats by the pancreatic juice out of the animal body—that is, their decomposition into their acids and bases—is impeded in the intestinal canal by the acid of the gastric juice.

2. That the quantity of fat absorbed from the intestines of any given animal, within a certain period, is limited; and that, provided a sufficient amount of fat is taken into the stomach, this quantity, under a normal condition of things, is at all times very nearly the same.

Still further experiments are required to determine:—

1. Whether any, and how much, fat is absorbed in the stomach itself.

2. Whether it is absolutely necessary to the absorption of fat by the chyliferous vessels that it be liquefied by the heat of the intestines.

The entire essay of Dr. Lentz is replete with interest. The several series of experiments appear to have been well devised and carefully executed, while the conclusions based upon them have all the semblance of legitimate deductions. It is true that, in regard to the conclusions drawn from those experiments in which the abdomen of the living animal was laid open and ligatures were applied to the pancreatic duct, the ductus choledochus, and to the duodenum, it may be objected that the results obtained cannot be assumed to represent positively the manner in which fat is absorbed under the ordinary circumstances of health, and while all the digestive organs remain in their normal condition; still, the experiments are so varied, in different cases, as in some measure to obviate the errors that might be expected to result from the disturbance of, or the unnatural condition of the functions produced by them.

We should have been pleased to present our readers with a detailed account of the several series of experiments instituted by the author, to enable them to judge of the correctness of the general conclusions he has drawn from each. But to have done this would have extended this notice of Dr. Lentz's work to a most unreasonable length. Every particular of an experiment must be given in order to present fairly its accuracy, and its true value in the settlement of the question to solve which it was undertaken.

The deductions of Dr. Schellbach, in regard to the function of the bile, are based mainly upon the result of observations made in the case of a dog in which an artificial fistula of the gall-bladder was formed, so that all the bile was discharged externally. These observations are limited in extent, and do not appear to sustain the conclusions drawn from them by the author, at least in reference to the main question investigated by Dr. Lentz. Dr. Schellbach believes that the bile is the essential agent in effecting the absorption of fatty matters from the intestines; but we confess that we cannot see that this position is absolutely proved by any of the facts connected with the experiments detailed by him, and upon which it is mainly based.

D. F. C.

ART. XXIII.—*The Principles and Practice of Surgery. Illustrated by three hundred and sixteen engravings on wood.* By WILLIAM PIRRIE, F. R. S. E., Regius Professor of Surgery in the Marischal College and University of Aberdeen; Surgeon to the Royal Infirmary, &c. &c. Edited, with Additions, by JOHN NEILL, M. D., Surgeon to the Pennsylvania Hospital, Demonstrator of Anatomy in the University of Pennsylvania, &c. Philadelphia: Blanchard and Lea, 1852: Octavo, pp. 784, including an index.

THIS is a very handsome American edition of an already popular production, albeit from a new competitor in the field of British surgical instruction. The favour with which it has been greeted on both sides of the Atlantic will more than justify the author's venture and its immediate re-issue in this country, whilst it proves that he has struck upon a vein that was not by any means exhausted. Notwithstanding the Californian profusion with which works on surgery in the shape of reprints and translations, as well as native publications, have been pouring from the press, we are glad to find some prospect left for elementary text-books on this prolific subject. The practitioner may revel to his heart's content, or entire confusion as the case may be, amidst all kinds of operative surgeries, clinical surgeries, and minor surgeries; of cyclopedias, dictionaries, and most learned and voluminous "systems"—not to mention the multitude of monographs, contributions, and special courses; but in spite of all this embarrassment of riches, what is to be done or has been done for the bewildered tyro—nay, even for the older student, if not for the almost equally puzzled tutor? We fear their wants have not been hitherto provided for in the manner which the experience and sense of either party would lead him to prefer at once, were he so fortunate as to be allowed an opportunity of choosing for himself. There is hardly within the beginner's reach a volume that undertakes to tell him effectually what he ought to learn before he is prepared to grapple with discussions which he has no time at first to profit by. He cannot find one which will afford him, in a condensed but not too meagre form, a clear, methodical, and comprehensive view of the leading facts and principles of surgical pathology (*internal* as well as external), diagnosis, prognosis, and treatment, such as he hears, or ought to hear, inculcated in their full length and breadth at the hospital and the lecture-room.

We do not ask for actual *primers*. These, as everybody knows, are sufficiently abundant—thanks to the eagerness with which such labour-saving inventions of the enemy always will be sought for, and which the very lack above expressed of proper substitutes contributes to increase; but we would be pleased to see a greater interest shown by competent authorities in the preparation of what alone can drive the catechisms, *et id omne genus*, out of decent company. Our prayer is for an intelligible, attractive form of introductory or primary class-book, elementary in character, but imparting a thorough general groundwork, and a groundwork only, of the science and art of surgery in its foremost state of progress.

The excellent compendium of Mr. Druitt seems, so far as we can now remember, to be the work which of all others in the English language has most nearly met this want, and which has probably in consequence enjoyed the most encouraging success. The compact form and *omnium gatherum* peculiarities of text and illustration that characterize this book, together always with the really great merit of its general style and teaching, doubtless materially aided in establishing its unprecedented circulation. Still, we are inclined

to attribute some share of the result to the absence of competition from the kind of work we have been trying to describe. For the very fulness of Mr. Druitt's "system," arising from the attempt to treat of everything and to illustrate everything at so small a cost of ink and paper—not to say of effort to the reader—has rendered it, after all, too much the mere *vade mecum* it was originally intended and denominated by its author—a *vade mecum*, moreover, decidedly more useful to the accomplished under-graduate and the practitioner than to the inexperienced learner.

Professor Pirrie does not pretend to address himself to any class of readers, or to place his work in competition with any others of its kind. It was prepared for the use of the members of his class, and in compliance with their wish, repeatedly expressed, to be furnished with a compendium of his lectures. In thus answering their call, it was his "endeavour to combine simplicity of arrangement, and conciseness and clearness of description, with the elucidation of sound principles and practice." A pretty full examination of his pages has led us to believe that he has succeeded admirably in his modest enterprise; at least, so far as he has gone. So admirably in many respects, and so entirely in many portions of his book, does he fulfil our hopes, that we seriously regret that his aim had not been higher in its elaboration for the press. A very little more care and time devoted to a few of the chapters, and to the discussion of a few additional topics in the same able manner that distinguishes the rest, would have freed it from inequalities and omissions which have justly been complained of, and would have rendered it one of the best text-books on its branch, and by all odds the very best *elementary* class-book of the kind we think desirable, in the English language.

The faults of Professor Pirrie have been generally admitted to be for the most part errors of omission only, and hence less detrimental to the value of his compend in the hands of students. Some of these omissions have been very well supplied, as we may show hereafter, by the American editor, who has added a considerable amount of valuable matter, compiled from the best sources in the country. The existence of others of the alleged short-comings may be a question of opinion in which the professor is entitled to the benefit of the doubt. On the whole, therefore, there is so little to object to in the doctrine and arrangement of the work, and so much to approve in it as a lucid elementary exposition of the present state of the principles and practice of surgery, and as a safe and attractive guide to the student of this branch, that we do not hesitate to recommend it warmly to our readers as already the best of its kind yet published. Our hope is that, in the new edition which must soon be called for, its author and editor may take the little trouble that would be required to place it not only in the competition which is now disclaimed, but before all competition with any publication of its class. Meanwhile, we propose to take a rapid glance at the general method and construction of our author, and at his matter here and there, taking occasion to offer by the way some extracts for the better information of our readers in relation to his general style and tone. More than this cursory view we cannot undertake, as any particular discussion of the doctrines of such a work would answer no good purpose, while a lengthened analysis of its contents would carry us beyond our present limits.

The book, then, is divided into twenty-five chapters, each of which is distinct in itself, and occupied with a particular topic or class of diseases. The headings of these chapters will serve to give an idea of the contents as a whole, and may be enumerated in so many words, and in the order of succession adopted by the author. The first ten chapters are devoted respectively

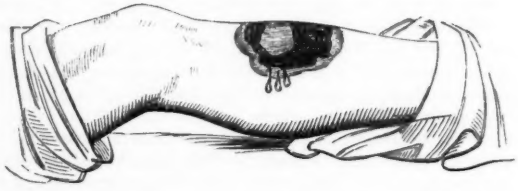
to the consideration of Inflammation and its Results (in 29 pp.); Erythema and Erysipelas (pp. 10½); Wounds (pp. 31, including additions by *Am. Ed.*); Burns (pp. 21); Fractures (pp. 75); Injuries of the Head (pp. 26, including Fractures of Face by *Am. Ed.*); Dislocations (pp. 57); Affections of the Osseous System (pp. 39, including additions by *Am. Ed.*); Diseases of Joints (pp. 34, including Anchylosis and Hysterical Disease of Joints by *Am. Ed.*); and Curvatures of the Spine (pp. 23). The next ten chapters are occupied with Talipes (pp. 18); Affections of the Arteries and Veins (pp. 49); Hernia (pp. 56); Wounds of Abdomen (pp. 6, including Paracentesis Abdominis); Calculous Disorders (pp. 47, including additions by *Am. Ed.*); Affections of the Testicle (pp. 16); Affections of Genito-Urinary Organs (pp. 29); Amputations and Resections (pp. 26); Deligation of Arteries (pp. 16½); and Affections of the Rectum (pp. 8½). The concluding five chapters are designated as follows: Affections of the Eye and its Appendages (pp. 53½, including Strabismus by the *Am. Ed.*); Affections of the Nose (pp. 10, including Rhinoplastics and Affections of the Antrum); Affections of Mouth, Throat, and Windpipe (pp. 32½, together with Wounds of Neck and Chest condensed by *Am. Ed.* from *South's Chelius*); Tumours (pp. 19); and Affections of the Breast (pp. 5½).

We have taken the pains to ascertain the number of pages belonging to each chapter, in order to enable those, who may have the curiosity to note the difference in the amount of attention paid to the different topics, to make their own comparisons. It must be remembered, however, that the estimate can only be approximate on account of the different numbers and sizes of the marginal wood-cuts. Still, it must be confessed that the disproportion is obvious in more than one instance upon the slightest examination. Certain topics are dispatched in a hurried and very unsatisfactory manner, while others are dwelt upon to an extent that would not be expected in such a volume. Inflammation and its Results are crowded into twenty-nine pages, Erythema and Erysipelas into ten and a half, Wounds into thirty-one, and Fractures into thirty-one, while the article on Burns is allowed to take up twenty-one pages, that on Curvatures of the Spine twenty-three, that on Calculous Disorders forty-seven, and that on Talipes eighteen. We do not wish to say that there is one word too much in a single chapter. Some of them are admirable specimens of condensation, and contain extremely useful summaries. But we cannot help thinking that the balance might be better struck in many places, and that an importance has been given to several sections, which more properly belonged to others.

Chapter 1st, on Inflammation and its Results, although enriched with the latest pathological views, and remarkably full, considering its very narrow limits, is disproportionately brief, especially in its history of the Results. In regard to the treatment, it is altogether too deficient. Under the head of Ulceration may be observed six different wood engravings of the leg, intended merely to exhibit the different varieties of ulcer. They are certainly very becoming specimens of zylographic art, but afford too vague an idea of the morbid appearances they are intended to depict to warrant the amount of room thus withdrawn from other objects in their immediate vicinity. We would rather have the roughest kind of a diagram, if it would only convey a definite idea, than the most superior drawing; and under this impression it seems to us that a magnified or exaggerated delineation of the ulcerated surface by itself would answer a better purpose than a larger picture, although this latter might represent a handsome foot and leg. While upon this subject, we are tempted to make our first quotation from page 52, on *granulation*:—

"*Granulation.*—The process by which the cavity is filled up, and continuity of tissue restored, is called granulation; it consists in exudation from the surface of the cavity of blood-plasma, constituting the fluid cytoblastema. Part of this blood-plasma degenerates into pus-corpuscles, but part becomes transformed into nucleated cells. Minute granules, forming the nucleoli (as they are called), are developed, and to the assemblage of these the term nucleus is given. On the nucleus a cell-wall becomes developed, which, at first closely embracing the nucleus, is afterwards raised up from it, and the nucleus thus separated from the cell-wall occupies an eccentric position within it. In these organized products, vessels are formed, and the whole, when thus developed, constitutes a layer of granulations, spreading over the surface of the cavity, and giving it the appearance of being covered with innumerable small bodies of a conical form, and of a florid red colour. From the granulations blood-plasma is exuded, part of which degenerates into purulent matter for the defence of the granulations, and part is transformed into nucleated cells, by which a new layer of granulations is formed. The cells of the first-formed layer undergo further changes, and are ultimately developed into the texture of the part, from the vessels of which the exudation of blood-plasma took place, and each subsequent exudation furnishes a cytoblastema for the formation of purulent matter and nucleated cells. By the successive formation of these cells, by their becoming ultimately developed into permanent tissue, and by the centripetal contraction of the original textures, the cavity is filled up, and the next part of the process is *cicatrization*, or the formation of cicatrix. This usually begins when the granulations arrive on a level with the surrounding skin, when the blood-plasma, hitherto converted partly into pus-corpuscles, and partly into nucleated cells, passes into cells which, by the process of development, are converted into fibres, and constitute the cicatrix. The new skin usually takes its rise from the margins of the old skin; but in some few instances, portions of new skin are seen forming on the surface of the granulations, like little islands, quite remote from the margins. Some have endeavoured to account for this fact by the supposition that the old skin has not been completely destroyed, as we not unfrequently find in burns, and that the isolated portions of new skin spring from the parts not entirely destroyed by the burn or ulceration; but I am convinced by various cases which have come under my own

Fig. 8.



observation, that this explanation is not satisfactory. I shall only refer to one case, that of a young lady, whom I had the opportunity of seeing, together with one of my colleagues in the University. The lady was the subject of phagedenic ulcer, of considerable size and of great depth, in the leg; and as other means had had no effect in arresting the destructive action, the whole surface was destroyed to a considerable depth by pure nitric acid. After the removal of the slough, healthy action took place, and a large isolated portion of the skin formed in the middle, and gradually increased until it joined that formed from the circumference of the ulcer. I have for several years been in the habit of showing to my class in the University, a drawing of this case, as it is an incontrovertible instance of an exception to the ordinary rule of the formation of skin from the circumference only, and an evidence that the explanation mentioned above is not satisfactory."

The same deficiency that was remarked above in regard to Chapter 1st, though not quite so decided, appears in the section on Erysipelas in Chapter 2d. Chapter 3d, on Wounds, although brief, in some respects is capital. We have room only for one extract that may appropriately follow the one already given:—

"*Treatment for Granulation.*—Wounds may require to be treated for granulation, either when inflammation has proceeded too far in a case which it was first attempted to heal by adhesion, or when, from the beginning, it was evident that granulation was the most suitable mode of healing, whether owing to loss of substance preventing coaptation, or to extensive contusion, or to the presence of foreign matter which could not be removed; all of which conditions are incompatible with the attainment of adhesion, on account of the active inflammation to which they give rise.

"In the former case, that of a wound treated hitherto for adhesion, its edges become swollen, red, and painful. Swelling more deeply seated causes the margins to separate, and purulent matter is soon poured forth. The indication here is to repress inflammation; in fulfilment of which, all sources of local irritation and general stimulation must be withdrawn. Sutures, if present, should be removed, and only a few strips of plaster left, to prevent any unnecessary gaping of the wound, and in many cases they also must be dispensed with. To the parts thus relieved from every kind of local irritation, warm water-dressings are applied, or a light, soft, moist, and warm poultice, if that application be still employed.

"In the second case, where granulation is from the first considered to be the most available mode of cure, the treatment is essentially the same as that mentioned above. The part is elevated, and kept at perfect rest; no sutures are employed, and only a few strips of plaster are used to connect the more loose portions of the wound. Cold water-dressing is applied till oozing of blood ceases; it is then gradually changed to the tepid, and next to the warm dressing, as the vascular action rises, so as to soothe and relax the tumefying wound. When the inflammation proves so active as to threaten gangrene, it must be repressed by local bleeding, and if absolutely necessary, by general depletion, in addition to the antiphlogistic regimen, which, during this stage of acute inflammation, is to be adopted.

"In both cases, the same point is now reached. Warm dressings are continued so long as inflammation remains active; but as it subsides, the heat of the dressing is gradually lowered until it be again merely tepid, or even cool.

"Under this treatment, the surfaces, if matters go on favourably, become clean in a few days; granulations spring up, and healing advances. The discharge which, during the height of the inflammation, had been very profuse, and far from laudable, now diminishes in quantity and improves in quality. In these circumstances, the wound, when superficial and broad rather than narrow and deep, requires merely the treatment proper for an ordinary ulcer; comprising the water-dressing, medicated, when necessary, with metallic salts, to stimulate indolent granulations, and the employment of carefully-adapted pressure by a bandage, when necessary to repress œdematous swelling.

"But if the wound be deep, without much loss of substance—in fact, such a case as would have healed by adhesion had not inflammation prevented—then, at this stage, when the surfaces are granulating well, and secreting little pus, they will, if placed in mutual contact, speedily cohere, affording a most satisfactory and rapid cure by secondary adhesion. Plasters are employed to retain the parts in apposition, and a bandage, lightly and uniformly applied, is in general necessary to give support. As absolute local rest is necessary for healing, any neighbouring joint, which interferes with this essential condition in the wound, must be prevented from exercising its natural functions, by a splint fastened with a few turns of a roller, or with a buckle bandage applied at two or more points, lightly, so that no œdema may ensue on the distal aspect, and arranged so that neither splint nor bandage shall compress the injured parts, or come in the way of the requisite dressings. Cleanliness is throughout attended to; the actual edges of the wound are not touched, but

from all around them the discharge is frequently wiped away with a small dossil of clean lint, tow, or rag, or indeed of anything clean, soft, and absorbent. A good sponge answers well when there is only one wound to dress, because it can then be frequently washed; but, in hospital practice, it would come into contact with all kinds of sores, and would never be sufficiently well or often cleansed after each time of its employment. On the other hand, the morsel of tow, being of small value, may be destroyed, and a fresh piece employed on each occasion."

Chapter 4th, on Burns, as already intimated, is admirable. It is evidently written *con amore*, and with no ordinary hand. There is no part of it that would not create a favourable impression. We must leave it with one quotation:—

"The *Constitutional Treatment of Burns* comprises *five* indications: namely, to promote reaction; to control and regulate its intensity; to watch for and treat inflammatory affections of the internal organs; to support the system under hectic and its complications; and lastly, to remove mechanically, under certain circumstances, the cause of the hectic.

"The *first* indication, then, of general treatment is to promote reaction. It is said that reaction is mainly brought about by the severity of the pain; but this must only be when the pain is under a certain degree of intensity; for it is well known that this symptom, when excessively severe, itself exercises a powerfully depressing influence upon the heart's action. In many cases, nature is able herself to rouse the system; but if not, reaction is to be promoted, when the patient can swallow, by the administration of some of the diffusible or more permanent stimuli, such as ammonia and brandy, in small and frequently-repeated doses. When the general surface and the extremities are cold, warmth should be applied, and, if practicable, sinapisms to the feet and pit of the stomach; but the effect of these must be closely watched, lest they induce sloughing. Opium has been recommended in large doses, to diminish the pain, but this will tend to increase still further the cerebral congestion, which dissection has proved to be so common at this stage; while, on the other hand, small doses will have no effect. The pain should in these cases be relieved, as far as possible, chiefly by topical remedies. When the collapse remains long, a warm and slightly stimulant enema may be administered, and repeated if necessary.

"This stimulant treatment, during collapse, must not, however, be carried too far; and it is to be suspended so soon as signs of approaching reaction appear; for otherwise, when that stage is fairly established, the persistent effects of a superabundant stimulation, or, in other words, its surplus would exaggerate the reaction, which would now require as active treatment in the opposite direction, and when subdued, if indeed not fatal, the system would be much more enfeebled than it would necessarily have been, had nature been left a little more to her own resources during her efforts to institute reaction.

"When, as stated before, premature and asthenic reaction comes on, marked by great irritability and nervous excitement, with a rapid, throbbing, but feeble pulse, the exhibition of opium, in large doses, is attended with the most beneficial results.

"The *second* indication is to regulate the intensity of the reaction. When it proves excessive, without apparently any internal organ in particular being attacked, the antiphlogistic regimen will in general be sufficient. In very few burns is bloodletting in any form required, or, indeed, in hospital practice, admissible; but it may possibly be demanded, in a few cases, to relieve the general inflammatory state of the system; and, at the same time, to moderate the local action, and thus limit the amount of secondary sloughing. In having recourse to these depletive measures, however, it must never be forgotten that, in all burns, except those of the first and second degrees, the powers of the system may, at no distant day, be taxed to their utmost to support suppuration, perhaps large in quantity, prolonged in duration, and secreted by an extensive surface. Accordingly, the slightest unnecessary lowering of the system will entail a still more profuse and protracted suppuration—a still more tedious and possibly imperfect cicatrization.

"The *third* indication relates to the inflammatory affections of various organs which may occur. Their onset is often very insidious, and so must be watched for. They are to be treated in accordance with the ordinary medical principles applicable to each particular complication. Bloodletting, when necessary, should be as moderate as possible, for the reason already specified; and also on account of the well-established principle, that depletion cannot be borne to the same extent in secondary inflammations, after a shock or injury, as in a primary or idiopathic affection of the same nature.

"The *fourth* indication is to support the system against hectic, and its complications. The appropriate treatment has been described when speaking of Hectic Fever. Over-stimulation must be guarded against, as this, equally with debility, impedes cicatrization by inducing flabby and exuberant granulation. The bed-sores, resulting from long-continued pressure on the salient points of the back, sacrum, nates, and heels, exercise a very depressing effect. When threatened, a strong spirit-lotion is an excellent application; or, if already formed, the part may be pencilled with nitrate of silver. Under the crust thus produced, the part, if relieved from further pressure, will readily heal. Arnott's water-bed, or a Mackintosh air-cushion, affords great relief by equalizing the pressure over the whole decumbent surface.

"The *fifth* indication is to remove mechanically, when necessary, the cause of the hectic. Amputation, though frequently performed to fulfil a merely local indication, namely, the removal of a useless limb, is sometimes necessary for the sake of the constitution. Thus, if hectic be extremely urgent, the suppuration continuing very profuse, with a large surface still remaining for cicatrization, while the amount of the former is not satisfactorily diminished, nor the rapidity of the latter materially increased by remedies, then amputation must be performed in order to save life.

"Suppuration may be prolonged, and cicatrization delayed—from debility of system—from an extensive surface being involved—from bone having become necrosed—and from the opening of a large articulation, either by the sloughing of the tissues, or subsequent to inflammation and abscess in its interior."

In relation to Chapter 5th, on Fractures, we may say that the introductory section is entirely too brief, and the whole chapter, with the exception of the section on fracture of the femur, is unsatisfactory and defective. Several important fractures receive no notice whatever, whilst others are passed over with very little mention. The history and treatment of the fractures which he does take the time to discuss, however, are, like other matters in the book, almost invariably well done. His mode of tabulating the varieties of fracture, and the different indications for treatment, strikes us as especially convenient. We are glad to see that Dr. Neill has introduced a note and drawing of Dr. Bond's recently introduced splint for Barton's fracture, and one of Fox's apparatus for fractured clavicle. Of the remaining chapters the best are—the 6th, on Injuries of the Head; the 8th, on Affections of the Osseous System; 9th, on Diseases of the Joints; 10th, on Curvatures of the Spine; 12th, on Affections of the Arteries and Veins; 13th, on Hernia; and perhaps the 15th, on Calculous Disorders.

Chapter 6th, on Injuries of the Head, is judiciously and ably written, and bears internal evidence not only of decided erudition, but ample practical experience.

Chapter 8th, on Affections of the Osseous System, is an instructive and extremely interesting chapter, in which the author again appears on evidently favourite ground. Next, we have an excellent chapter on Diseases of the Joints, and following this another, on Curvatures of the Spine, that would do honour to any of the systematic works. That on Diseases of the Joints is a remarkable history of the present state of knowledge of those intricate affections. Its illustrations are among the most curious and valuable in the whole book. The chapter on Talipes is clear and well digested, and full

enough to bear its due proportion to the other parts. Chapters 12th and 13th, succeeding this, on Diseases of the Arteries and Veins and on Hernia, respectively, are two of the most valuable and instructive chapters in the book. The extracts here appended from the former will interest the reader, and may serve as fair examples of the manner in which its subject has been dealt with. First, let us read his sketch of

"Steatomatous Degeneration.—This disease, named less properly by some atheromatous degeneration, was long overlooked, and seems to have been first noticed by Monro and Haller; but since they drew attention to it, it has been investigated with great success by many able pathologists, and its anatomical characters and progress distinctly pointed out. Steatomatous degeneration commences by minute granules, of a pale yellowish colour, situated between the internal and middle coats. While the disease is in this rudimentary state, the lining membrane is scarcely elevated at all; it is transparent, so that the spots are seen through it; it is unchanged in consistence; and if it be peeled off, the granules being adherent to its surface, come along with it. There is no accompanying redness, or any mark of inflammatory action in the surrounding textures. These granules coalesce into groups or masses, in the next grade of the degeneration, and the inner membrane, though unchanged as to transparency or texture, is scarcely so flat as during the early stage; and if it be peeled off, part of the deposit comes away with it, and part clings to the middle coat, from which it appears obvious that the unnatural deposit is developed between them. The middle coat, at the seat of the deposit, is of a light yellow colour, and of a more friable texture than natural, but neither in it nor in the surrounding textures can traces of inflammatory action be at this stage discovered. The deposit has the consistence of suet—feels greasy to the touch—is of a cheese-like opaque appearance, and when broken down by the finger, gives the sensation of minute granules scattered through a fatty substance. Not only has it a fatty appearance, but the researches of Gulliver show that its chemical composition also differs but little from that of ordinary fat; and this being the case, of the two appellations, steatomatous and atheromatous degeneration, the former is the more correct. Bizot detected shining particles in this deposit; Cruveilhier, small masses resembling the cholesterin scales of small gall-stones. Gluge, on examining these masses with the microscope, found them to consist of fat-globules; and Sivaine, who also repeatedly examined them with the microscope, states that he 'found them, on several occasions, to consist of fat-globules merely; generally, however, they were made up of an amorphous granular mass, mingled partly with fat-drops, partly with numerous cholesterin rhomboids. The shining particles are often very numerous, some having a golden, and some a silvery hue.'

Fig. 134.

"The steatomatous degeneration, after attaining the grade last described, may undergo one or other of various transformations; the two principal changes, however, are ulcerous softening and osseous transformation. For the sake of a clearer description, the various changes in ulcerous softening have been arranged into three stages.

"The first is characterized by the absence of all marks of inflammation in the surrounding textures, or of any change in colour, transparency, or consistency of the internal membrane. This membrane, however, is slightly elevated, there being more of the deposit than in the former grades of the disease; and the middle coat is still more altered and softened, and of a still brighter yellow colour at the affected spot. In the second stage, the patches are distinctly elevated, like pustules, and when pressed, communicate to the finger of the examiner the

Fig. 134. From a preparation in my museum.

impression of their containing a semi-fluid substance. After the membrane has been opened and the matter discharged, it is found, on examining the place in which the matter was contained, that the middle coat presents an ulcerated appearance; but some part of it still remains between the place in which the matter was situated, and the outer coat. In the third stage, the internal membrane having cracked allows an escape of the deposit, and falls down towards the middle coat, producing a depression; or the internal membrane having (as happens in many instances) fallen off, or having disappeared, an ulcer is formed, with the walls of which the sanguineous current is in contact, the edges being irregular, and the walls formed of the outer coat, or of that and the yellowish detritus of some very small portion of the middle coat. The outer coat becomes thickened, and the seat of many injected vessels, but no traces of inflammation are to be seen in the inner and middle coats at the parts surrounding the seat of the degeneration. Such are the characters of the steatomatous degeneration, when it undergoes the ulcerous transformation; but, as has been stated above, it may undergo an opposite change, termed the osseous transformation. The term transformation has been objected to, when applied to this last-mentioned change, as the calcareous matter is merely deposited in the yellow steatomatous substance, which is regarded by many pathologists as forming its nidus. The calcareous matter assumes the form of thin, brittle scales or plates, of a yellowish-white colour, surrounded at first by steatomatous deposit, but not having any fibres or organized structures between them. They are believed to increase very slowly, the surface directed to the lining membrane more slowly than that directed outwards; and they evidently enlarge more in extent than in thickness. As the calcareous deposit increases, it comes into contact with the lining membrane, from which it is in some instances separated up to this period by a layer of albuminous matter spread over it. The inner membrane in many cases at length gives way, so that the blood is in immediate contact with the calcareous deposit, and the middle coat, after having been attenuated and changed as already described, ultimately disappears, and its place may be said to be occupied by the concretion; hence has arisen the erroneous opinion that this coat itself is transformed into bone. The calcareous concretions are found in various forms; they usually consist of plates or scales, varying considerably in extent, and, in some rare instances, occupying the whole circumference of the vessel at the affected part, so as to convert it into an inflexible tube. Sometimes they consist of minute grains; and more rarely, they give, on examination with the finger, the sensation of a number of minute bodies, movable on each

Fig. 135.

Fig. 135. From a preparation in my museum.

other, as if jointed together. As cartilaginous degeneration of the inner coat is not very unfrequently found coexisting with the form of calcareous transformation just described, the error of ascribing the calcareous deposit to ossification of the previously-existing cartilage is easily accounted for. These subjects of anatomico-pathological investigation have occupied the attention of many pathologists, and in the present state of our knowledge of them, they are considered, not as different stages of the same disease, but as entirely different diseases—the result of different morbid actions; the one commencing on the free surface of the internal coat, the other in the cellular tissue between the internal and middle membranes. Such are the anatomical characters of the ulcerous and calcareous transformations; the latter, however, may give rise to ulceration, and it may therefore be stated, that, in the progress of steatomatous degeneration, ulcerous transformation may take place, with or without osseous transformation. Sometimes when the steatomatous deposit exists in great quantity, it diminishes the channel of the artery, but it is much more frequently productive of dilatation with or without ulceration, or of rupture, or of circumscribed or diffuse false aneurism—dilatation being usually the result of the steatomatous deposit, and rupture with its consequences, of that condition when accompanied by calcareous concretion. A variety of the steatomatous deposit has been described by Scarpa, Stentzel, Craigie, and others, in which the secretion is of a yellowish colour, and of a cheesy or wax-like consistency. It commences most frequently in the bifurcations of arteries, and originates between the middle and inner coats; but it differs from the deposit already described, in being of firmer consistence, and in rarely containing gritty calcareous deposition. To this variety some restrict the term steatomatous degeneration, and give to that already described the name of atheromatous deposit."

Next we may turn to the history of aneurisms, and particularly to their

"*Spontaneous Cure.*—Nature sometimes, though very rarely, effects a cure; and an aneurism, therefore, which is not accessible to surgical treatment, does not invariably terminate fatally. The processes by which a spontaneous cure may be effected are the following:—

"*First.*—The most frequent manner of a spontaneous cure is, by the sac becoming filled with lamellated coagulum. The various stages of this mode of favourable termination, first minutely described by Hodgson, and afterwards minutely investigated by many other competent observers, are the following: the sac becomes completely filled so as to preclude all further entrance of blood. The artery, by deposition of coagulum, becomes impervious as far as its nearest considerable branches, and is ultimately converted into a small impervious cord—the circulation in such cases being maintained by the blood, which is received into the branches given off from the arterial trunk above the aneurism, being discharged into branches given off from the trunks below, and conveyed through the last-mentioned branches by inverted circulation into the trunks from which they originate—both sets of branches becoming much enlarged. Or the artery may remain pervious, the blood passing over the closed-up sac at the part where its mouth communicated with the vessel. The tumour becomes smaller and harder in consequence of absorption. Petit records a case of spontaneous cure in which the aneurism, at one time as large as an apple, became as small as an olive. Examples of this mode of spontaneous cure are to be found in the writings of most surgical authorities on this subject. The accompanying drawing is taken from a very good example in my own collection of preparations.

"*Second.*—In some examples where the whole circumference of a vessel has become aneurismal, a spontaneous cure has been effected by a canal being left through the centre of the lamellated coagulum, through which the blood continued to circulate. There is reason to believe this to be an extremely rare mode of spontaneous cure.

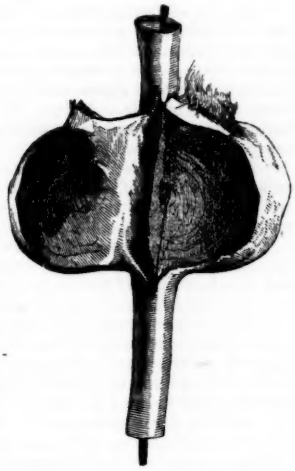
"*Third.*—It occasionally happens that from over-distension, or some other circumstance, inflammation of the sac and surrounding parts supervenes, and goes on to gangrene, the whole of the aneurismal tumour sloughing away, and by that means a spontaneous cure is effected; hemorrhage from the vessels

leading to the part being prevented by the same process as when gangrene takes place in other circumstances.

"*Fourth.*—Another mode is by the aneurism pressing on the trunk leading to or from the aneurism, so as to obstruct the circulation. If the size and position of the tumour be such as to cause an approximation of the opposite sides of the artery either on the cardiac or capillary side, there can be no doubt that a cure will be the result. When the pressure is on the cardiac side, the cure is effected on the same principle as in one of the modes of surgical treatment described in the next section.

"*Fifth.*—Pressure on the trunk leading to the aneurism may be produced by other causes than the aneurism itself, as by a tumour not aneurismal, or by another aneurism on a neighbouring artery; and thus a spontaneous cure may result. Mr. Liston records an example of subclavian aneurism, which on dissection was found to have been cured by an aneurism of the arteria innominata.

Fig. 142.



"*Sixth.*—The same favourable result will follow, when inflammation takes place in the artery, and fills its caliber with coagulum.

"*Seventh.*—Sometimes a portion of lamellated fibrinous coagulum, becoming detached, falls into the sac, and thus causes diminution, or complete occlusion of the mouth. In the latter case, coagulation of the blood in the sac must take place, and in the former the consequent diminution of the circulation through the sac is much calculated to promote deposition of fibrin, and to accomplish a spontaneous cure. In this mode the artery may or may not become impervious.

"*Eighth.*—A portion of the coagulum may fall into the artery and obstruct it; thus effecting a cure. Or,

"*Ninth.*—The aneurism may burst and become diffuse. If the presence of the diffusely infiltrated blood do not give rise to the untoward consequences formerly described, it may, by its pressure on the cardiac side of the tumour, so weaken the force of the circulation through the aneurism, as to promote the deposition of lamellated coagulum, or to arrest the circulation of the fluid parts of the contents of the sac, and thus promote their coagulation. Such are the methods by which nature sometimes, though rarely, effects a spontaneous cure; and it may be a consolation to patients who are subjects of aneurisms in accessible situations to know that their case is not hopeless, and that a spontaneous cure is not impossible."

We begin the examination of the article on Hernia, with a passage descriptive of the use and *modus operandi* of the truss, taken from the paragraphs relating to the treatment.

"I. The Different Ways in which the Use of a Truss produces a Complete or Radical Cure of Hernia.—*First.* If a hernia has been very suddenly produced, if it be very small, and if it be very quickly returned, the hernial sac may either return with the hernia, or be gradually drawn back into the cavity of the abdomen. The sac being empty, and no force pressing it downwards, its ascent will be promoted by the elasticity of the peritoneum lining the walls

Fig. 142. Spontaneous cure of aneurism of the femoral artery by the sac being filled with coagulum; the vessel remaining pervious. From a preparation in my museum.

of the abdomen in the neighbourhood of the protrusion, and by the stretching of the peritoneum in various movements of the body, as well as by the elasticity of the hernial sac itself. After the return of the sac, the pressure of a truss sometimes produces sufficient diminution of the opening by contraction, effusion of lymph, and consequent joining of the surfaces, to prevent any future protrusion of sac or hernia. This kind of cure, however, in which the sac returns, and its future protrusion is prevented by the diminution of the opening, is only to be looked for in small herniæ of short standing, and very suddenly produced. If a hernia be of considerable size, and more especially if it be also of long standing, the distension of the hernial sac, and the pressure of the surrounding parts, excite a degree of inflammation by which those parts and the sac become adherent to each other, so that the sac cannot be returned into the abdomen, and the kind of complete cure already described cannot take place.

"*Second.*—After the return of a hernia, the sac, being empty, contracts by its own elasticity, in accordance with the general law that membranous parts accommodate themselves to the state of their contents. This kind of closure of the hernial sac is analogous to the contraction of the tubular portion of peritoneum, which exists within the inguinal canal for some time after the descent of the testicle. A truss, by approximating to each other the sides of the hernial sac, may assist the natural elasticity in closing up its neck, and in bringing about a radical cure.

"*Third.*—Occasionally, the wearing of a truss for a long time produces thickening of the neck of the sac, or of the cellular tissue surrounding it, or of both, and thus interrupts the communication between the cavities and the abdomen, and the hernial sac.

"*Fourth.*—The pressure of a truss often excites adhesive inflammation in the sac, by which its opposite sides become joined together by coagulable lymph, and a recurrence of hernia is prevented. This condition of parts is very frequently found in the bodies of persons who have been subjects of hernia.

"*Fifth.*—According to J. Cloquet, the opposite sides of the sac sometimes become adherent without the intervention of lymph, and without the very slightest traces of any inflammation. He supposes that the membrane ceases to secrete the fluid by which it is naturally bedewed; that it becomes dry, and that the sides become adherent without the intervention of any substance. In the ordinary form of adhesion of the opposite sides of a hernial sac, effusion of lymph, thickening of the sac, and traces of adhesive inflammation are perceptible; whereas in this method of complete cure there is immediate union, with thinning of the peritoneum, and the entire absence of all traces of inflammatory adhesion.

"*Sixth.*—Paré, Arnâud, and others, record cases in which complete cures were effected by the firm adhesion of the formerly protruded parts to the peritoneum lining the abdomen around the mouth of the hernial sac; and as in these cases trusses had been worn, it was believed that the pressure gave rise to inflammation in the neck of the sac, and that this inflammation, having extended to the membrane lining the cavity of the abdomen, produced the adhesions.

"*Seventh.*—Absorption of the neck and part of the body of the sac sometimes produces radical cure. Surgical observers have described this condition of parts, and I lately had an opportunity of demonstrating it to the students at the School of Medicine in Marischal College, in the body of a person who had worn a truss for many years for the cure of a reducible hernia. Almost the whole of the neck and the upper part of the body of the sac were absorbed, but the remaining portion of its body and fundus were entire, and formed a bag in the scrotum in front of the tunica vaginalis.

"II. The Precise Situation to which the Truss should be Applied.—Since the immediate object which the surgeon desires to accomplish by the pressure of the truss is, to prevent a return of the hernia, and the ultimate object, to induce some of the various changes already described, by which the tendency to its recurrence may be removed, it must be evident that the precise part to which the pressure should be applied is, that where the hernia first quits the abdomen. This point will vary in the different forms of hernia, and

will afterwards be explained; but meanwhile it may be stated that before the various changes in the sac, and in the opening by which it quits the abdomen, were clearly understood, by which changes a complete cure of hernia is effected, a very common error which prevailed was, to apply the truss too low instead of exactly over the opening; and in consequence, the advantages of the truss were often not obtained, and, moreover, various inconveniences, which will hereafter be described, were frequently produced.

"III. The Length of Time a Truss should be Worn.—As the prospect of a complete cure is very different at the different periods of life, it being almost a matter of certainty in young persons, occasionally met with in adults, and not to be expected in elderly persons, there will be a corresponding difference in the length of time that the truss must be worn, as well as in the object of wearing it; the object being at one period merely preventive or palliative treatment, at others palliative treatment and radical cure. In young persons, a complete cure is often effected in less than twelve months, in adults seldom under two years at least, and in old persons it is not to be expected. In regard to the time a truss should be worn, Sir Astley Cooper remarks: 'You will be asked by the patient when you have applied the truss, how long he is to wear it; tell him to wear it at least two years. He will then ask you whether he is likely to be cured at the end of that time; your answer must be that this must depend upon his age. A young person is generally cured at the end of two years, but it will be advisable for him to continue to use the truss for three years. If the person be not young, there is not much hope of effecting the cure of hernia by wearing a truss.'

"The truss should be constantly worn, not only during the day, but also during the night, because, although the probability of a recurrence of the hernia is by no means great in the recumbent posture, yet it might be induced by a cough, or any sudden change in the posture of the body in bed, and then the cure would require to be commenced anew from that period. It ought also to be kept in mind that the recurrence of the hernia, after the use of the truss has been commenced, is attended with more risk than before, because if thickening about the neck of the sac or around it has commenced, the hernia is more likely to be irreducible from being surrounded by firmer textures. According to some of the best surgical authorities upon this subject, the only exceptions that should be made to the constant use of the truss are, when it is first applied, and before it is to be laid aside, when it is believed that a complete cure has been effected. When first applied, the truss frequently gives rise to irri.ation, and heat of the skin, with inconvenience and discomfort from pressure and restraint; and until these unpleasant sensations wear off, which will usually be in a week or two, it may be discontinued during the night, but the patient should even then be careful not to remove it until he is in the horizontal posture, and he ought again to apply it before raising himself from that position. And when it is believed that the cure is complete, the truss may be discontinued at night, before it is entirely laid aside. For some time after the daily use of the truss is discontinued, it is a judicious precaution to wear it whenever the body is more than usually relaxed. When the danger of a recurrence of the hernia is greater, or during any unusual exertion, and during the whole period of wearing the truss, it is proper, on making any violent movement or effort, to afford a degree of support by the hand over the pad of the truss. When it is believed that the cure is complete, the surgeon should make a very careful examination of the part where the hernia came out from the abdomen; and before he sanctions the discontinuance of the truss, he should endeavour to ascertain that no swelling can be felt, and that during coughing, or any exertion of the muscles of the abdomen, there is no sensation of a hernia striking against the finger when applied to the opening."

We quote these passages because of their decided testimony in behalf of the possibility of radical cure by means of trusses—a possibility sustained by every surgeon entitled to authority, and of which our own experience has long since convinced us beyond the shadow of a doubt.

It would give us pleasure to present his discussion of the question of open-

ing the sac, which he seems to have studied with unusual care, and has managed to exhibit in a clear and instructive light. Our narrowing space, however, restricts us to a quotation—this time in relation to the abuse of taxis. The important lesson here conveyed cannot be too early or too forcibly impressed upon the learner's memory. And, accordingly, Prof. Pirrie's earnest warnings will be found to bear the stamp of his practised judgment and eminently cautious mind, whilst they are supported by the authority of the ablest surgeons of the day.

"There can be no doubt that intestinal inflammation is the most frequent cause of death after the operation for strangulated hernia. Some of the advocates of Petit's method have assigned as the causes of that inflammation, when the ordinary proceeding is adopted, the exposure of the intestine to light and air, change of temperature, and handling. I agree with Mr. Lawrence in ascribing it not to these agents, but chiefly to the long-continued pressure of the stricture, owing to the operation being *too long delayed*, and to an injudicious and *too frequent use of the taxis* previous to the operation. I remember being very much struck with an observation of Desault's; I have not his works beside me at present, but it is to this effect: 'Think well of that hernia which has been little handled and soon operated on.' The operation is justifiable and necessary, when the patient has been brought fully under the influence of chloroform, and the taxis has been fairly, fully, and skilfully tried, without producing the desired effect. The conviction being thus produced, that by no other means than an operation is there hope of saving the life of the patient, it ought to be resorted to as quickly as possible. Much handling must not only give unnecessary pain, but also increase the risk of hurrying on the inflammation to results which, even though the operation should be performed, would render it unsafe to return the hernia. When, therefore, the taxis has been fairly and skilfully tried on a patient fully under the influence of chloroform, no advantage can, but considerable injury may, result from the repetition of treatment already found to be unavailing. Many considerations show that the operation should be performed as soon as possible after its inevitable necessity has been found to exist. Delay, like undue handling, increases the risk of inducing such a state of the hernia, in consequence of inflammation, as would render its return unsafe. From the circumstance that a hernia may speedily prove fatal, and from the depressed state which comes on in consequence of delay, rendering the patient less able to stand the shock of an operation, will be seen the importance of being as prompt as possible; but there is another, and a very urgent reason, namely, that, if the operation be delayed until intestinal inflammation has been induced within the abdomen, it is far from certain that this inflammation will subside on the removal of the hernia which caused it. I have performed the operation for strangulated hernia, according to the usual mode, a considerable number of times, I believe twenty-three in all, and except in one case, where death occurred in consequence of an attack of phlegmonous erysipelas, which commenced after the patient was considered out of all danger, in every instance with success. This success I attribute to two things, namely, avoiding all undue and useless handling, and performing the operation early. My decided impression is, that the reason why the operation is so frequently followed by death, instead of being one of the most successful of the great operations of surgery, is too great delay in resorting to an operation, and the undue and the injurious use of the taxis, even after its adoption has proved unavailing."

But little room is left us for the remaining sections of the volume. Enough has already been submitted to enable any one to form a pretty fair estimate of the general nature and value of its contents. For aught else we must refer inquirers to the book itself, confident that they could not do a wiser thing than to make it for a while their close companion on the study table. A few words of comment more, and we have done. Among the ten concluding chapters may be found an excellent review of calculous disorders in Chapter

15th, which, although previously pretty full for such a text-book, has been considerably enriched through the good offices of Dr. Neill, who has availed himself, to an excellent purpose, of the admirable materials of Dr. Gross. Chapter 17th is deficient in several topics which are too decidedly important to be slurred over or omitted altogether. Nothing, for instance, is said about spasmodic stricture, the pathology of which has been so beautifully and ably demonstrated by Mr. Hancock in his *Lettsomian Lectures.* Nor is much more to be found concerning retention of urine, from any cause, whether stricture, abscess of perineum, rupture or injury of the perineum, enlarged prostate or other of the different local dyscrasies and displacements. These surely are matters of vital moment to practitioner and patient. In fact, there is hardly a class of ills which flesh is heir to that will more certainly fall to the lot of the young surgeon in his practice than these frequently most terrible affections.

Chapter 18th introduces us to Amputations and Resections, respecting which we have only two remarks to make. It is a curious fact that the circular method of amputation, preferred in the great majority of cases in this country, and, if we mistake not, by army surgeons everywhere, is never once alluded to. It seems, under the influence of local prejudices, to have been so completely banished as to be lost sight of altogether; whilst, more oddly still, its absence has escaped even the sharp eye of the American editor.

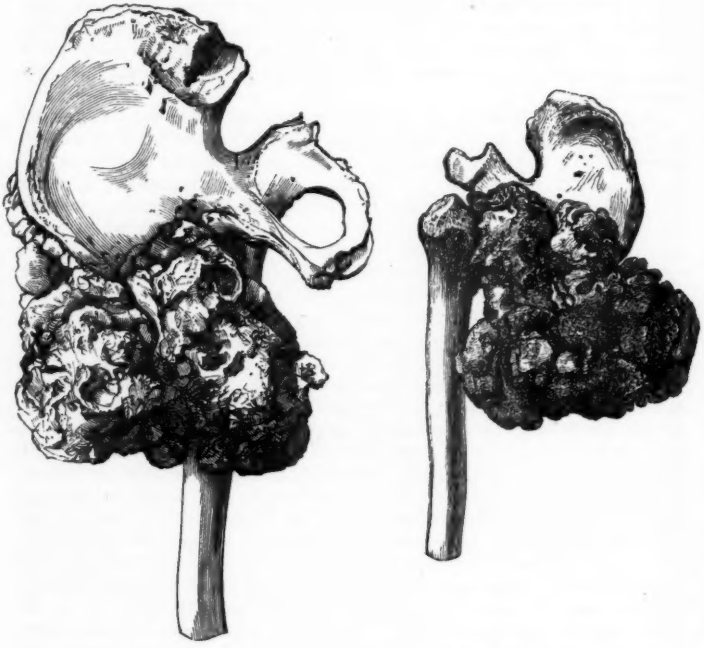
Our next remark concerns the use of chloroform, in relation to which our editorial friend has, we think, been again at fault. Chloroform appears to be a standing dish—a uniform preliminary and leading measure, not only in amputations and resections, but in dislocations, fractures, strangulated hernias, and retentions of urine also, if not, in short, in nearly all pain-creating manipulations. This resort to anæsthesia by chloroform we know to be the tendency at present ruling among the British surgeons, and above all the Scotch; but it is not so inordinately the practice and feeling amongst us in this country, at least in Philadelphia. We have little fear of anæsthetics, chloroform excepted, and no one is more ready than ourselves to resort to them on proper occasions and with due precautions, for the purpose of relaxing spasm, assuaging the pain of disease, or blunting the agony from operations; but we do not consider this employment of so powerful an agent for good or evil to be a mere matter of routine too simple and trifling in itself to demand the labour of special caution and instruction. Chloroform, at all events, is manifestly nowhere the harmless instrument it might be supposed to be in Mr. Pirrie's cavalier prescriptions of it. Least of all is it reliable in this country, where the article itself may vary in character and poisonous constituents with every laboratory from which it comes, and must in any case, however pure itself, become, in the hands of an ignorant or careless operator, a source of serious injury and danger. There is good reason, therefore, for the regret that neither the author nor editor has thought of giving some definite advice as to its effectual and legitimate uses, or of entering a caveat against its indiscriminate employment by inexperienced or ignorant hands.

The remainder of the volume is taken up with a very good *resumé* of diseases of the eye; with another still better, although briefer, summary of tumours, especially in their histological connections; and finally with some other less interesting topics, upon which we have no time to dwell.

We present an extract from the chapter on Tumours, containing a brief description of cancellous osseous tumours, with a view more particularly to exhibit the two beautiful illustrations drawn from a specimen in the author's own collection:—

"Cancellous bony tumours are generally more or less round in form; though somewhat smooth upon the surface, more frequently present numerous lobes and nodules. They are slow in their growth, but often attain a great size. Mr. Paget mentions that the largest he has had an opportunity of seeing is in the Museum of the Royal College of Surgeons of England. It surrounds the upper two-thirds of the tibia; and measures a yard in circumference. The largest I have seen is one in my own collection, of which the two accompanying figures are good delineations:—

Fig. 288. Front view. Fig. 289. Back view.



"It is an immense mass of bone attached to the os innominatum, cancellous in its interior, nodulated on its surface, and covered by a thin layer of compact bone. The patient laboured under the disease for ten years, and died in consequence of the sloughing of the soft parts. As the osseous tumour was uncombined with other elements, it cannot be said to be an example of osteo-sarcoma, under which appellation many include all tumours in which bone is mingled with soft tissue. The viscera were perfectly healthy."

So much for Dr. Neill's edition of Mr. Pirrie's *Elements of Surgery*.

The publishers have done their part so handsomely that, with the aid of the editor's additional text and illustrations, they have really produced a better book than the original. The paper, printing, and engraving are all of the very first class, and entirely worthy of the high position which the work is destined to assume. That an opportunity for the much more material improvement that awaits it may very soon present itself in the call for a new edition is our earnest hope and expectation. E. H.

BIBLIOGRAPHICAL NOTICES.

ART. XXIV.—*A Treatise on the Practice of Medicine.* By GEORGE B. WOOD, M. D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania, etc. etc. 2 vols. 8vo. pp. 847, 853. Philadelphia, Lippincott, Grambo, & Co. 1852.

THE complaint is often made that no encouragement is extended to the works of our own physicians, while medical works emanating from the British press command a larger sale in this country than they do at home. We are not aware, however, that any production of merit from the pen of an American physician, adapted to the wants of the profession in this country, has failed to meet with all the encouragement that could reasonably be anticipated. If we had no other evidence that the physicians of the United States are neither disposed to undervalue the productions of their own countrymen, nor to forego their purchase when they ascertain that such productions are of a character calculated to impart to them instruction of immediate practical application, the success of the treatise before us would fully sustain the truth of the position. The sale of two editions, the second being double the size of the first, within five years, is a very certain proof of the acceptability of the work with the American medical public, as well as of their disposition to sustain a native medical production when suited to their wants.

We believe that we are warranted in affirming that the works of our own physicians when even of a more expensive character, and which less immediately minister to the everyday exigencies of the American practitioner, than the treatise of Dr. Wood, by no means lack encouragement, but obtain as ready a sale in this country as do the same class of works by European authors, and, in extent, not very far short of what these latter command at home.

It is unnecessary for us to enter at this time into an examination of the manner in which Dr. Wood has executed the task he has assumed—the preparation of a complete treatise on the practice of medicine. A somewhat extended review of the first edition was presented soon after its appearance; since then the work has reached and received the approval of a large portion of the profession throughout the Union, by whom it is now made use of as a work for constant reference; and we know of no one to which the student and the practitioner may resort with greater certainty of obtaining correct views of the pathology of diseases and of the treatment which present experience approves as that best adapted for their removal.

The teaching of Dr. Wood in regard to the seat, pathognomony, and nature of diseases, and their proper management, is based upon the recorded observations and experience as well of the physicians of the United States as of those of Europe, compared with his own, in every case in which an opportunity has been afforded him for the study of the maladies of which he treats. He has gathered from every attainable source the knowledge which he deems important. These materials have, for the most part, been maturely considered, have been submitted to a close scrutiny, and have been rearranged in a manner calculated to combine conciseness with clearness and precision.

The great aim of the author has evidently been to present an honest exposition of the present condition of our knowledge in regard to the pathology and therapeutics of the leading diseases to which the human body is liable; and in carrying out his plan we nowhere detect him sacrificing truth in a search for novelty, or disregarding the obvious deductions from well-established truths in the desire to build up some specious hypothesis.

It is this which renders the treatise before us so safe a guide to the inexpe-

rienced—so valuable a reference for those engaged in the active duties of the profession, without time or opportunity for keeping pace, by the perusal of many books and the close analysis of their contents, with the daily progress which everything connected with the healing art is now making through the labours of its cultivators both at home and abroad.

The call for a second and a third edition has been improved by the author to bring up the work fully to the actual state of medical knowledge. In the edition just issued, it has undergone many modifications, and not a few important additions have been made to it.

"Among the additions may be mentioned brief notices of several diseases, which, from their rarity, or total absence in this country, or from being yet unknown as distinct affections, were not described in the former editions. Such are the relapsing fever of Dr. Jenner, the leucocythemia of Professor Bennet, the dengue, and certain cutaneous affections, as trichosis, lupus, and pellagra. The chief modifications, however, have reference to subjects, previously more or less fully discussed, as, for example, to inflammation, fatty degeneration, carcinoma, epidemic cholera, the treatment of phthisis, the nature of hemorrhage, Bright's disease, &c. The reader who may deem it worth while to compare the present with former editions, will, probably, also notice among the most prominent changes, a more extended reference to the important microscopic discoveries of recent times, and their bearing upon pathology."

D. F. C.

Art. XXV.—*Reports of Institutions for the Insane in the United States.*

1. *Of the Western Asylum, Virginia*, for 1849 and 1850.
2. *Of the Lunatic Asylum, Columbia, S. C.*, for 1849 and 1850.
3. *Of the Ohio Lunatic Asylum*, for 1848, 1849, and 1850.
4. *Of the Indiana Hospital for the Insane*, for 1849 and 1850.

1. In former years, we have generally found in the annual reports of Dr. Stribling, of the Virginia Western Asylum, a considerable amount of matter interesting and useful to the profession generally. The one before us, however, is mostly occupied with the domestic concerns of the institution. The establishment has been greatly enlarged within a few years. In 1834, the whole number of patients in the course of the year was only 40; in 1840, it was 91; and in 1849, 264. The official year ends on the 30th of September.

	Men.	Women.	Total.
Patients at the beginning of the year	118	87	205
Admitted in the course of the year	27	32	59
Whole number	145	119	264
Discharged	24	24	48
Remaining at the end of the year	121	95	216
Of those discharged, there were cured	13	19	32
Died	6	4	10

Causes of death.—Old age 3, marasmus 4, chronic diarrhœa 2, dyspepsia 1.

"By far the greater proportion of our patients," says the report, "have been so long insane, and enjoy in so high a degree their physical health, that they rarely require medicine, and hence their comfort is, in the main, to be promoted by a judicious use of moral means." The prospect of recovery is represented as favourable in only 13 of the 216 remaining in the asylum.

"On several occasions we have dwelt, at some length, upon the evils resulting from friends and officers practising deception upon the insane, in order to remove them to the asylum. We still have too much cause to regret this indiscretion (not to use a stronger term), on the part of those who should know better, and act differently; but it is gratifying to perceive that the public are beginning to appreciate the views heretofore presented. We trust that the day is not distant when the universal sentiment will demand that *any amount of*

force which may be necessary to the removal of an insane individual to the asylum shall be resorted to, rather than prevarication and stratagem."

In allusion to a donation of books from Miss Dix, Dr. Stribling says: "This lady is, by her unobtrusive and self-sacrificing labors, doing more for the cause of the insane, and especially that large and most helpless class, the pauper insane, than any other individual in our country; indeed, we might say, than all other individuals combined. Her benevolence is contracted by no selfish feeling, nor bounded by sectional limits, but is entirely disinterested and as expansive as our common country. Should no monument of brass or marble be erected to perpetuate her fame, she must, throughout after ages, occupy a prominent place in the memory and affections of all who can appreciate Christian virtue and admire modest worth."

We now come to the report for 1850. It says: "The additions in progress at the date of our last annual report were completed early in January. Apartments being thus provided for *more than two hundred additional patients*, we have been enabled to receive all who applied for admission."

	Men.	Women.	Total.
Patients at the beginning of the year	121	95	216
Admitted in the course of the year	80	52	132
Whole number	201	147	348
Discharged	46	27	73
Remaining at the end of the year	155	120	275
Of those discharged there were cured	31	14	45
Died	9	10	19

Causes of death.—Paralysis 5, epilepsy 3, marasmus 2, cerebral disease 2, "pulmonary disease" 2, dropsy 1, pulmonary consumption 1, exhaustion 1, jaundice 1, congestion of lungs 1.

"Of the 320 recoveries reported here since June 1836, 47 have been visited with a second attack of insanity, 7 with a third attack, 1 with a fourth, and 1 with a fifth. The relapses have therefore amounted to about 17 per cent. upon the recoveries. A large majority of these are again in the full possession of their reason, and many of them happy and useful citizens."

Of the 275 patients remaining in the asylum, the prospect of recovery is "favourable" only in 16. It is no wonder that, under such circumstances, Dr. Stribling should urge the importance of the treatment of insanity in its early stages, and present so formidable an array of authority as he does to support him.

2. By the report for 1849, of the Lunatic Asylum at Columbia, S. C., it appears that the buildings of that institution having been found inadequate to the demands of the public, extensive additions had been commenced.

Patients at the beginning of the year	91
Admitted in the course of the year	49
Whole number	140
"Cured and removed"	21
Died	11
Remaining at the end of the year	108

Dr. TREZEVANT urges upon the regents the importance of procuring more extensive grounds—that the patients may have more room for exercise—and of increasing the number of attendants for the purpose of inducing the patients to labor.

By the report for 1850, it appears that 54 patients were admitted in the course of the year, which, with the 108 in the asylum at the commencement of the year, makes the whole number 162; 27 were "cured and removed," and 15 died; leaving 120 at the institution when the official year closed.

"Many have been admitted this year," says the report, "with so feeble a circulation that their limbs and bodies have become purple, and, after the closest and most sedulous attention, ulcerations would occur, and they died from the

effect of the long-continued irritation. Many of those who have been some time with us have perished from anasarca, diarrhœa, and epilepsy.

"We have more than a due proportion of epileptic patients, and many are brought in after the disease has existed for years, and the powers of the man are perfectly prostrated. All such cases are sent for the purpose of relieving their friends of the trouble of attending them in their last and most loathsome hours, and we receive them only to attend to, and add to the comforts of their last days. Many are also received who have been detained at home, in close confinement, until their health is utterly destroyed, and almost every semblance of humanity so changed and perverted that it is a satire to call such beings *men*—and they are brought to us to die."

The officers of the asylum at Columbia are not the only ones who labour under these disadvantages.

The treatment, both medical and moral at this asylum, appears to be identical with, or very similar to that of the other similar institutions in this country.

3. At the Ohio Lunatic Asylum at the beginning of the official year which ended Nov. 15, 1848,

	Men.	Women.	Total.
The number of patients was	167	162	329
Admitted in the course of the year	91	72	163
Whole number	258	234	492
Discharged	81	74	155
Remaining at the end of the year	177	160	337
Of those discharged there were cured			93
Died			34

The number of cures is greater than that of any preceding year since the establishment of the institution.

In the report for 1849, the directors allude to the "coming necessity of making further provision for the insane, by the erection of two additional asylums;" and assert their belief that the time has arrived at which it is best to take initiative measures for the construction of one of them.

Although the cholera prevailed for a long period in and around Columbus, not one case of it occurred at the asylum. Several pages of the report are occupied with an account of the preventive measures adopted and pursued. They include "nothing original," and are such as would be suggested in the mind of most physicians. "We had less diarrhœa in the asylum," says the report, "than is common at the same period of the year; and no indications of dysentery until the cessation of the cholera, when two or three cases appeared, one of which proved fatal. The evidence of scurvy was clear, but not extensive in the house. It was chiefly confined to the males. The cases of dysentery appeared to partake of the scorbutic character to some extent; and this added to their severity."

	Men.	Women.	Total.
Patients, Nov. 15, 1848	177	160	337
Admitted in the course of the year	74	81	155
Whole number	251	241	492
Discharged	82	87	169
Remaining, Nov. 15, 1849	169	154	323
Of those discharged there were cured			94
Died			30

Near the close of this report, Dr. Awl, who hitherto had been its superintendent from the time at which it was opened, says: "Impaired health and a desire for retirement, both by myself and family, will render it proper, according to my judgment, that the responsibilities of the station should pass into other hands—an event which will try every endearment of my nature, but for which I hope to be prepared."

In the report for 1850, the directors say: "In the month of June last, Dr.

William M. Awl tendered to the Board his resignation of the office of superintendent. The Board was very unwilling to receive it. * * * He had been connected with the establishment from the laying of the first stone of the buildings. It had grown up, and expanded to its present magnitude, and attained its present position under his long-continued and anxious care and supervision. He has done honour to himself and the State. He has rendered a great service to the cause of humanity. The institution stands a monument of his zeal, judgment, energy, and ability, in this field of benevolent enterprise.

"The choice of the Board fell upon Dr. SAMUEL HANBURY SMITH, as his successor. This gentleman came recommended by the highest testimonials for character, ability, and science. His administration thus far gives promise that he will be found fully equal to the duties of the place, and that the institution will lose nothing by the change."

	Men.	Women.	Total.
Patients, Nov. 15, 1849	169	154	323
Admitted in the course of the year . . .	112	81	193
Whole number	281	235	516
Discharged	108	90	198
Remaining, Nov. 15, 1850	173	145	318
Of those discharged, there were cured . .	49	50	99
Died	13	9	22

"The house is not only always full, but commonly crowded to an extent in the highest degree destructive of comfort to its inmates; besides inevitably retarding their cure, or perchance, preventing it altogether."

In allusion to the general exemption of the patients from epidemic diseases during the year, Dr. Smith says: "Even while the choleric pestilence was ravaging the city—was around us—and was twice introduced into our very midst (two mechanics employed in repairing the hot-air furnaces having been attacked), we were blessed with the same immunity. * * * If an unusually large experience be worth anything—if an experience of three tremendous epidemics of cholera in three different countries, has taught me anything, it is that good drainage and perfect ventilation, especially *natural* ventilation, where that can be obtained, are, of all hygienic means, by far the most important."

Dr. S. recommends the construction of a green-house, and the commencement of a botanic garden on the asylum premises. In reference to the treatment of patients, he says: "The want of mental occupation is still the greatest want in modern institutions for the insane; and, for my own part, I feel as if every patient lying or sitting about in a state of listless indifference, were a reproach to the institution in which he is allowed to fall into such a state of apathy. It is just those whom we find hanging about the sources of warmth, rarely exhibiting interest in anything going on around them, who most require mental exercise, in order to preserve them, if possible, from becoming wholly demented, or, at all events, to ward off as long as possible so wretched a climax. * * * I am anxious to commence a series of readings and lectures, as early as my excessive occupations will permit. I have also in contemplation *tableaux vivants*, musical parties, and other means of affording alternate or combined amusement and instruction." Neither schools nor lectures have hitherto been introduced into this asylum.

Whole number of patients received in 12 years . . .	1558
Discharged cured	734
Died	201

Causes of death.—Consumption 28, marasmus 24, epilepsy 23, diarrhœa 22, fever 20, dysentery 19, inanition 17, apoplexy 12, atrophy 8, palsy 7, dropsy 5, inflammation of brain 4, pneumonia 4, pericarditis 2, inflammation of liver 1, chronic bronchitis 1, cancer uteri 1, erysipelas 1, cutaneous cancer 1. The total of these is but 200. In the report for 1849, Dr. Awl states that there had been two deaths by suicide in the asylum since its establishment.

"I have, with considerable trouble," says Dr. Smith, "prepared the follow-

ing statement, which has at least the merit of being *an approximation to the truth*, in regard to a very important matter:—

"The whole number of recent cases, *i. e.*, of less than a year's duration, which have been admitted into the institution from its commencement to the 15th of November, 1850, is 851; of which have been discharged cured, 584. There remain under treatment, whose cure in all human probability is certain, 47, which, added to 584, make 631, and give a percentage of cures on recent cases received of 75.43. The curability of recent cases in this institution would be exactly represented by these figures were it certain that the word *recovered*, when entered opposite a name on the books of the institution, is always properly employed. The term has probably been applied to many cases which were only *very much improved*, but not in scientific strictness *cured*—70 per cent. being considered by some authorities as about the limit of possible cures in recent cases.

"There have been 707 chronic cases received, of which 150 have been discharged cured, and the recovery of 12 more may be considered as certain. This gives 162 cures, or 22.91 per cent., pretty fairly representing the curability of such chronic cases as have been treated in the Ohio Asylum."

4. In December, 1848, the Indiana Hospital for the Insane was first opened for the reception of patients under the superintendence of R. J. Patterson, M.D., formerly Assistant Physician in the asylum at Columbus, Ohio. "So urgent were the applications, and so imperative the demands for admission," says Dr. P. in his first annual report, "that the institution was forced into operation before we were properly prepared to exercise a controlling and sanitary influence over those committed to our care. * * * Since the opening of the hospital, a period of eleven months, 104 patients have been admitted, and 28 discharged; leaving 76 now in the care of the institution. Of those discharged, 20 have recovered the right use of their reason, and 4 have died."

The insanity of one of the patients is attributed to the excessive use of quinine, and in two others to the loss of sleep. "It would seem," says Dr. P., "that the celebrated poet, Southey, became insane from the loss of sleep; for Wordsworth says of him, that 'he fell a victim, not to literary toil, but to his strong affection for his wife, which led him night after night to watch with sleepless anxiety over her sick bed;' and that 'his mind gave way under the long-continued deprivation of the natural rest of the body.'"

In his remarks upon bleeding in insanity, Dr. Patterson uses the following language: "*Raving mania* can be much more permanently controlled by the use of the warm-bath, cold applications to the head, warm foot-baths, mild cathartics, and, in some cases, by nauseants. *Bleeding quiets the patient temporarily, but the excitement returns with greater fury, and the system is less able to bear it than before. So far as I have observed the practice, bleeding does not accomplish the desired object, but the contrary; for it impoverishes the blood, reduces the strength of the patient, and thereby renders the nervous system more excitable.*"

From the report for 1850, we glean the subjoined statistics:—

	Men.	Women.	Total.
Patients at beginning of the year	35	41	76
Admitted in the course of the year	31	27	58
Whole number	66	68	134
Discharged	26	28	54
Remaining at the end of the year	40	40	80
Of those discharged there were cured	18	20	38
Died	1	0	1

"During the months of July and August, there was great proneness among our patients to diarrhœa and other bowel complaints, but by strict attention to cleanliness throughout the establishment, by a prescribed diet, and prompt medical treatment when indicated, through the blessing of Divine Providence no case was lost, or even suffered materially from these affections. With these exceptions, there has been but little sickness at the hospital during the year,

notwithstanding cholera and other kindred diseases prevailed alarmingly in the country about us."

From a personal acquaintance with Dr. Patterson, we believe that, aside from an appropriate education, he possesses many of those natural requisites unattainable by art, which qualify him as an excellent manager of the insane; and under his superintendence we anticipate a high rank for the Indiana Hospital.

We have now completed the special notices which were commenced in the issue of this Journal for April last, and continued in that for July. A few general subjects, however, remain, to which we wish to direct the attention of the reader. The following remarks in the Report of the Maine Asylum for 1848–9 appear to us as particularly truthful; and are worthy of a place here for the purpose of counteracting the disposition to estimate the success of institutions by a comparison of their published statistics:—

"Such varied circumstances influence the conditions and operations of every institution for the care of the insane, whether supported by States or by individual munificence, that little can be gathered from their reports by which to form comparisons of the success in treatment. Hence they are chiefly useful to enable those interested to contrast the present with the past, and to judge of the proper action for the future. In one State, having two institutions, differing in age and nature of the locality, in both of which the indigent are supported by the State, there are some striking contrasts. In the oldest, which is mostly filled with incurable cases which have been accumulating for more than thirty years, the recoveries last year were less than the deaths. In the other, of all discharges and deaths, fifty-five in a hundred were recovered. This affords no proof whatever that the one was more skilfully managed than the other. In some States, where the poor are supported from the State treasury, the incurables are seldom removed except by death; consequently, this last item is almost the only one to swell the number of discharges above the cures. In one State (asylum), more than one-third of the inmates are foreigners. As with us, the incurables of this class are never removed during life, and both that institution and ours are probably destined to see this class of *fixtures* become a majority.

"Some institutions, and ours is one, have the list of their discharges and deaths cruelly augmented by having to place on that list a great number of persons on whom no class of curative means can have any more effect for their recovery than if applied to so many skeletons. Such are idiots, paralytics, epileptics, the demented, and other cases of many years' standing; and, worse than all, those who are in the last stage of life, and those who are unfit subjects, or are improperly removed before time is given to benefit them. Since this institution went into operation, more than one-fourth of the admissions have belonged to one or other of these classes, either absolutely incurable at the time of admission, or taken from our care by the injudicious action of others. Several of these classes require and should have the care afforded by an asylum. But in hospitals for the insane, curable, or at least, recent cases should not be excluded by them."

For many years the reports of the institutions for the insane have been burdened with exhortations in regard to the importance of an early removal of persons attacked with mental disorder to an appropriate asylum. Dr. Brigham was the first, if we mistake not, to caution against the opposite extreme. Dr. McFarland, of the New Hampshire Asylum, in his report for 1850–51, treats the subject as follows:—

"It is proper to remark that, while too long a period is sometimes allowed to elapse after an attack of mental derangement, before the asylum is resorted to, the reverse is sometimes true; the individual being hurried from home before the exact nature of the disease is determined, or before the fitness of the remedy is well considered. Aberration of mind is frequently one of the symptoms of typhoid fever; ushering in the disease with so little physical disturbance as to mask the true malady. This is a state of things under which removal is almost certain death. Several have closed their existence with us, who, had

they been spared the exhaustion of a journey, might have passed the crisis of their disease in safety."

Dr. Bates, of the Maine Asylum, in his report for 1849, thus extends a similar word of caution:—

"No person should be sent here in whom the disease has not existed long enough to have it clearly ascertained that he or she *is insane*, and not in a state of febrile delirium. A mistake in the visiting physician, causing persons of the latter class to be transported many miles, has repeatedly augmented the danger, and death has taken place in a few hours after arrival. The present and previous reports will show a number of deaths taking place very soon after admission."

Dr. Kirkbride, in his report for 1850, alludes in a different connection to this class of cases:—

"The cases of delirium," says he, "cannot with propriety be included as insanity, the mental disturbance being of a peculiar character, and due to acute disease of a different kind, under which the patients were labouring. The admission of this last class of cases is always unfortunate; the patients generally being very ill, the exposure and fatigue to which they are subjected on their journey almost invariably cause a fatal termination."

In the reports which we have reviewed in the present and two preceding numbers of the Journal, the number of cases in which the condition of the patients in regard to marriage, is stated, is *ten thousand nine hundred and ninety-six*. They are as follows: Single 5253, married 4905, widowers 250, widows 588. Although the single exceed the married with surviving partners, yet the married and widowed—those who are and have been married—exceed the single by 480. The widowers are to the widows as 42½ to 100.

The number of cases in which the ages of the patients, at the time of the first attack of insanity are given, is *seven thousand three hundred and eighty-seven*. Arranged in the several decades of life, they stand thus: Under 20 years, 886; from 20 to 30, 2753; 30 to 40, 1863; 40 to 50, 1166; 50 to 60, 491; 60 to 70, 198; over 70, 30. The number between 20 and 30 years exceeds that between 30 and 40 by 47.7 per cent.

At the commencement of our notices in the issue for April last, allusion was made to the fact, that during the interval since our last preceding review of reports, three physicians who had been connected with institutions for the insane had been removed by death. They were Drs. Amariah Brigham, James Macdonald, and Samuel B. Woodward. It is due to the memory of these distinguished men that we transfer to these columns some of the tributes elicited by their decease.

The managers of the New York State Lunatic Asylum in their report for 1849, to the Legislature, thus refer to the death and services of Dr. Brigham: "It has been our painful duty to record the death of our late superintendent, Dr. A. Brigham, who died after a brief illness on the 8th of September last. His physical energies and general health had become impaired by his too close and long confinement and devotion to the discharge of his responsible and onerous duties, so that he fell an easy and unresisting victim to the fatal, but not severe attack of the disease which terminated his earthly labours.

"Dr. Brigham was appointed superintendent of the asylum on the 9th of September, 1842, and on him devolved the great labour of organizing the institution, and directing and superintending the fitting up of the various conveniences and fixtures necessary to adapt it to the uses for which it was intended. He applied himself to the task with untiring and unyielding devotion. He performed labours, and surmounted difficulties of which the public know but little, but which might well have disheartened a less determined man.

"By his published reports as superintendent of this institution, as well as by his other writings and labours, he has done much to enlighten the public upon the subject of the worst of human maladies, to mitigate the sufferings which it brings, and to discover and apply the means of its cure. Those who have been associated with him in the management of the asylum, as well as many, who through his skill, care, and attention, have been restored to health,

will long hold his memory in grateful remembrance for the many virtues that adorned his character, and the enlightened philanthropy and eminent ability with which he conducted the institution committed to his care."

The following extract from the records of the Monthly Committee of the Trustees of the Massachusetts State Hospital at their visit upon the 7th of January, 1850, will exhibit the estimation in which the character of Dr. Woodward was held by those with whom he had been associated in his important sphere of labour:—

"It is proper that this record should contain a memorial of a recent event of Providence which deeply interests the feelings not only of all concerned in the administration of this hospital, and of all who are or have been recipients of its benefits, but of the friends of the insane within this commonwealth and throughout and beyond the extent of our country.

"On the 3d instant, at 6 o'clock P. M., the Hon. SAMUEL BAYARD WOODWARD, the first superintendent of this hospital, died at his residence at Northampton. For several weeks he had suffered successive attacks of the severely painful disease which affected him while at the hospital. By these attacks it is understood that his constitution seemed to be so impaired that a restoration to his former health was not confidently expected; but the immediate cause of his death was found to be the rupture of an aneurism of the aorta, just above the diaphragm.

"Dr. Woodward was born at Torringford, Connecticut, on the 10th of June, 1787. In early life, he established an extensive medical practice in Weathersfield, Ct., and the adjacent towns, with great success and reputation. In the year 1830, the confidence of his fellow-citizens called him to the civil service of his native State in the office of a member of the State senate. He directed his studies to the subject of insanity, and had considerable experience in the treatment of mental disease before he was connected with this hospital. He was appointed superintendent on the 26th of September, 1832, before the hospital was opened for patients, and continued in office until June 30, 1846, a term of nearly fourteen years, in which he applied to his laborious duties all the powers of his body and his mind, with little indulgence for social pleasure or domestic comfort, or even for the demands of exhausted nature or painful disease. At the date of his resignation, he had had charge in the hospital of 2642 patients, of whom nearly all received perceptible benefit; and more than half the number should pray for blessings on him as one who had raised them from death to life. The system of this hospital was in many respects peculiar and new, and it was chiefly instituted by him. His example has always been recognized here as a perpetual presence by his worthy successor, who carries on the same good work with distinguished ability and success. His copious reports, which were appropriate to such an institution, and his occasional writings, gave him authority and wide-spread influence, and he had the happiness to see the fruits of his benevolent labours in other institutions established or improved in accordance with his wise suggestions, and in the progress of more correct opinions on the subject of insanity.

"For the important office of superintendent of a hospital for the insane, Dr. Woodward had extraordinary qualifications in his person, his disposition, and his mind. His person was a rare model of strength and manly beauty. On his brow sat courtesy and command in entire harmony, and it is no exaggeration to say, that his form and carriage were majestic. His stature was six feet two and a half inches; and, without the deformity of obesity, his weight was two hundred and sixty pounds. His temper was benevolent, liberal, sanguine, decided, and persevering. He understood readily the characters of men, had great power over their feelings, and easily gained their confidence and love. He was prompt and systematic in his business, and unsparing in labour. His mind was of a practical character. His powers of observation were vigilant and discriminating; and expression and life rather than books were the chosen subjects of his studies. Hence his thoughts had a freshness and confidence of truth which carried them to the hearts of men. All that he learned he kept in readiness for use, and he enforced his arguments with copious illustrations. His quick invention, under the control of sound judgment and common sense,

gave him abundant resources for the many exigencies of his arduous office. His attention was not confined to the circle of his own pursuits. Being a watchful observer of the signs of the times, he was ready to give his sympathy and aid to such objects as he approved.

"He retired, with his physical system wasted and disordered by the labours and anxieties inseparable from his position here, to a beautiful estate at Northampton, where for a time he seemed to find the benefit which he sought. He had the care of several unfortunate victims of mental disease, and still continued his studies in the science in which he was so eminent; and was sought for his wise counsels in ordinary medical practice as he had been in all his industrious life. Highly blessed in his domestic relations and in the large circle of his friendship, prosperous in the great objects of his life, and beloved and honored in the world, he was called away when the cup of his earthly happiness was full. While we mourn the loss of our friend and guide, strangers will unite their voices with ours to lament that the presence and example of the strong reaper has been removed, though the rich harvest of his good work remains."

The foregoing notices are from non-professional sources. The following are from the able pen of Dr. Ray, Superintendent of the Butler Hospital for the Insane:—

"Among the distinguished names that add a mournful interest to the obituary of the past year, are two whose eminent services in the cause in which we ourselves are labouring, seem to claim, with peculiar appropriateness, a word of grateful recognition, in an annual record like this. I refer to Drs. Macdonald and Brigham. The former, after superintending, for several years, the asylum at Bloomingdale, N. Y., with the unqualified approbation of its directors, opened a private establishment for the care of the insane at Flushing, furnished with provisions for ministering to their comfort and enjoyment, upon a scale that has never been equalled in our country. He was a gentleman of rare professional attainments, and possessed of moral endowments that commanded universal respect and affection. Although more particularly devoted to the wealthier classes, he cared much for the welfare of those who have no other claim for care than the powerful appeal that human suffering always makes to the benevolent heart. The defective condition of the municipal establishment for the insane of the city of New York, was one of those appeals, and, in conjunction with a few others, he undertook a series of changes that required much of his time and patience. His death, which happened shortly after, prevented him from witnessing the full benefit of his labours.

"Dr. Brigham commenced his labours in this department of the profession, as Superintendent of the Hartford Retreat, from which he was called, in 1842, to take charge of the lunatic asylum established by the State of New York, at Utica. This institution, for a few last years the largest in our country, he endeavoured to maintain in a state of constant advancement, and in this object he was eminently successful. He had high notions of the worth and dignity of his calling, and, though constantly suffering with ill-health, he never relaxed his efforts to reach, in it, a point of distinguished excellence. The amount of labour he performed in carrying out his views was wonderful, and the traces of his superintendence will not soon be effaced.

"Since the above was written, another has fallen whose name will ever be associated with the history of American hospitals for the insane. For thirteen years, Dr. Woodward was the Superintendent of the State Lunatic Hospital at Worcester, Massachusetts. A sanguine disposition which no obstacles could dishearten; a cheerful, buoyant temper, that gilded every circumstance with bright and pleasing hues, and a cast of intellect that enabled him to make the most of the materials at his command, admirably fitted him for an office peculiarly fruitful in discouragements, and accompanied by a certain wear and tear of spirit less incident to other spheres of professional exertion. He was liberally endowed by nature, and every gift he improved to the utmost in the service to which he was called. He possessed, in a remarkable degree, the faculty of impressing others with a sense of his abilities, and inspiring them, whether sane or insane, with confidence in his counsels. Many men have directed

larger establishments, but few, I apprehend, have held such intimate and salutary communication with so great a number of minds."

The beautiful establishment of Dr. Macdonald, at Flushing, is continued under the care of his brothers. P. E.

ART. XXVI.—*On the Preservation of the Health of Women at the Critical Periods of Life.* By E. J. TILT, M. D., etc. etc., 12mo. pp. 142. London, 1851.

THIS is one of those half popular, half professional works, of the beneficial tendency of which, we confess, we have strong doubts. The propriety of instructing females in all that relates to their sexual physiology, and in those hygienic rules which are adapted to insure the establishment and the regular and free performance of all the functions of their system, no one can dispute. But when, as in the work before us, the sound advice given in relation to the preservation of the health of women at the critical periods of their life; the repeated admonitions against the abuse of medicine, by domestic practitioners, in the disturbances, real or supposed, of the function of menstruation, and the frequent warnings as to the dangerous consequences that may ensue from not having early recourse to the advice of a competent physician, when that function becomes in any way irregular or deranged, is intermingled with strictly medical opinions, and directions for the proper therapeutical treatment of sexual disorders, it is very much to be feared that unprofessional readers, neglecting that which falls within their scope and province, will be misled into a belief that those directions may be safely carried out without the necessity of invoking the aid of the physician. There is in most persons, but especially in females, a kind of innate propensity to prescribe for the cure of disease, and every medical opinion that falls in their way, they treasure up and often sadly misapply, and every remedy for any given ailment they may chance to hear of, they are ready to recommend, without knowing or caring aught of the circumstances which indicate or forbid its employment.

We have no dispute with Dr. Tilt as to the correctness of any of the facts or principles set forth in the essay before us. Every portion of the work is, we admit, replete with sound teaching and good advice. We only wish that the advice to mothers had been separated from the excellent pathological and practical hints, which can be of no use, and may lead astray the general reader, but should be addressed solely to the profession. We do not, however, mean to say that, from the entire work, the young practitioner may not derive much useful instruction to guide his advice when consulted in reference to the management of the female at the period of the inception and that of the decline of menstruation.

The leading positions enforced by Dr. Tilt are:—

"I. To keep a girl in the nursery as long as possible," and thus "*to retard as much as possible the appearance of the first menstruation.*"

"The nursery," says Dr. T., "in the usual acceptation of the term, means rational food, rational hours of rest and of rising, and rational exercise at judicious times. It means the absence of sofas to lounge on; the absence of novels fraught with harrowing interest; it means the absence of the laborious gayety of theatres and of operas; the absence of intimacies which are of a too absorbing nature, and a wholesome subjection of every minute to rule and discipline."

If the author had added plenty of fresh air, his term nursery would then stand for a rational system of hygiene; a judicious course of physical and moral training.

"II. Not to let her be taken unawares;" that is, the girl should be prepared "to expect what is the common lot of her sex, so that the first appearance of the menstrual flow may neither be arrested by the alarm naturally felt at something hitherto inexperienced, nor by the dangerous applications to which in her ignorance she may imprudently have recourse."

"III. Never to seek to determine first menstruation by forcing medicines.

"IV. Never to give or take forcing medicines to promote the reappearance or the increase of the menstrual flow.

"V. Never to give or take purgatives during the week before and after menstruation, unless by medical advice.

"VI. Never to allow a daughter's constitution to be undermined by profuse or very painful menstruation, or by permitting it to return at shorter intervals than once a month.

"VII. Never to be so reckless of her own or her daughter's health, or so unjust to her medical adviser, as to let him prescribe in ignorance of her state," that is, as to the presence of the menstrual discharge.

"VIII. A respect for whatever may have received life;" consequently, the danger and immorality, when in the married female menstruation shall become suspended, of attempting by forcing medicines to bring it on, in order that pregnancy may be prevented.

"IX. A knowledge of the possibility of menstruation continuing during pregnancy, and of the danger of confounding this with other sanguineous uterine discharges.

"X. A knowledge of the possibility of menstruation continuing during lactation, without in any way forbidding it.

"XI. A knowledge of the reality of the dangers by which the change of life is attended.

"XII. A conviction that these dangers can, for the most part, be avoided by a judicious line of conduct."

These several subjects are commented upon by Dr. Tilt, in a brief but interesting and able manner, and illustrated and enforced by statistical tables and numerous cases.

As an example of the author's manner and matter, as displayed in the present essay, we present our readers with some extracts from the chapter on the decline and cessation of menstruation. The length of these extracts will be pardoned, inasmuch as they contain much to interest and instruct.

"I have now," says Dr. T., "to treat of the management of women during the last of the many revolutions by which their lives may be checkered; for it stands to reason, that habits, which have lasted more than thirty years, cannot be set aside without frequently entailing very serious ill-health. Popular prejudice has termed 'critical' the period of life characterized by this change—a term warranted by the experience of past ages, bearing the test of daily observation, and which gives peculiar importance to this inquiry. In asserting that this period of life is critical, I do not mean, however, to maintain with the older authors, that more women than men die between the ages of forty-five and fifty-five, for Duparcieux and Benoist de Chateauneuf have, by statistical inquiry, proved the contrary to be the case, but that the cessation of menstruation in women is followed by a greater amount of suffering and disease than is the lot of men during the corresponding portion of their career.

"Admitting the cessation of menstruation to be a crisis in the life of women, it behoves us to know by what evils it may be attended, and the remedies by which they may be prevented or alleviated. But I deem it necessary to preface my remarks by a pathological sketch of a subject, deriving additional importance from its intricacy and extreme obscurity; for, in the little that authors say on the matter, they generally copy each other, without, however, giving a satisfactory account of the diseases to which women are peculiarly liable at this time, much less, any well-combined plan of treatment, which is only to be deduced from sound pathological views."

"As that pathology is soundest which reposes on the basis of physiology, I must first inquire into the habitual methods of termination of the menstrual function, previous to investigating its diseased modes of cessation; or, in other words, elucidate, as I have previously done, the diseased condition by the *natural history* of the function. No better idea can be given of the different modes of termination of the menstrual function, and of the subsequent disorders thence entailed, than by analyzing one hundred instances, wherein I have carefully

noted the phenomena of its cessation, and of the patient's subsequent state of health.

"With respect to the quantity of the menstrual flow, it terminated gradually in 39 per cent.; by a succession of floodings in 19 per cent.; by a terminal flooding in 14 per cent.; by alternations of a little, and a considerable flow in 10 per cent.; by a sudden stoppage in 18 per cent. With respect to the periods of its occurrence, the flow appeared at irregularly protracted intervals in 79 per cent.; and at irregularly contracted periods in 21 per cent.

"The gradual termination, then, is the most frequent; and, as it is attended by a less disturbance of health, we should favour this mode of termination, as far as lies in our power, by the adoption of the remedies and regimen, by-and-by to be recommended; and here I may remark, that the frequency of flooding, amounting to 33 per cent., seems to indicate bleeding as the best imitation of the process by which nature seeks to work out the remodelling of the female constitution. A terminal flooding has, no doubt, been sometimes taken for a miscarriage, and *vice versâ;* but, in both cases, as the same plan of treatment will be adopted, no danger can ensue. The sudden stoppage of the function claims more attention, for it occurs more frequently than is supposed at an early period of life; it may be then considered to be merely a temporary suppression, and lead to the use of forcing medicines, and to serious mischief. This mode of cessation is not unfrequently mistaken for pregnancy in women married late in life, or in those who have long ceased to bear children; a mistake the more easily made if cessation coincides with some amount of swelling of the abdomen and breasts, with the secretion of milk, and other sympathetic disturbance, of which time only can show the fallacy. The converse may occur, and pregnancy be mistaken for cessation, and the imprudent employment of purgatives or forcing medicines may bring on a miscarriage. It should never be forgotten that pregnancy happening towards the fiftieth year has been too often considered an ovarian tumour and treated as such, to the detriment of both mother and child, even if the mistake does not cause the death of one or both.

"I know of a very sad case wherein this mistake happened to a lady who had been married twelve years, without family, and in whom menstruation suddenly ceased at forty-eight. The lady believed herself to be pregnant; but the absence of previous conception, her advanced age, and her state of emaciation, led a very distinguished country practitioner to imagine her to be afflicted with an ovarian tumour. The lady came to town to consult an eminent obstetric physician, and, receiving a confirmation of the former opinion, used a bandage, and applied mercurial ointment to the abdomen, but at the ninth month after she first supposed herself pregnant, she was delivered of a dead child. The Fabian policy is that best calculated to prevent such painful consequences: and *cunctando restituere rem* should be the motto of the medical adviser.

"After a long period of cessation, the flow may reappear and return regularly for months or years, without, however, indicating the return of procreative power. It has occurred to me to meet with an instance in which menstruation was protracted to the fifty-sixth year, in a case in which I was lately consulted by my friend and colleague, Mr. Chippendale; and since then I have been consulted by another patient, gifted with a strong constitution, and, although the lady is now in her fifty-eighth year, menstruation proceeds as regularly as ever. Amongst numerous instances related by authors, one of the most singular is that given by Meissner,* of a person who first menstruated at twenty, her first child was born at forty-seven, and the last of seven other children at sixty. Menstruation ceased, and reappeared at seventy-five, continuing until ninety-eight, then stopped for five years, again to return at the advanced age of one hundred and four, when, in 1812, she was still alive. Evidently confounding this occurrence with cases of flooding caused by organic uterine disease, Meissner and others attribute a host of evils to this reappearance of the periodic flow, whereas it is perfectly harmless, and should rather be considered a salutary effort of nature to prevent serious disease in certain constitutions.

* Almanach für Aertze und Nichtärzte auf das Jahr 1817.

All women should, therefore, be aware of the possibility of this occurrence, so that they may not forcibly repress the flow; but they should likewise be aware that it is necessary for the medical man to make a very careful investigation, in order to ascertain whether the loss of blood does not depend on cancer of the womb, or some organic disease of this viscus, susceptible of cure."

"No department of pathology has given rise to so much confusion as that which treats of the diseases of women at the critical time; while some, with Dewees and Meissner, deny that women are then more liable to disease, others, with Gardanne,† seem to consider as diseases of the critical time all those which may afflict a woman after she has passed her fiftieth year—a position evidently untenable, for many diseases attack women at that period, not because they are women, but on account of their being advanced in years, such as affections of the heart, or of the larger vessels, and softening of the brain, which are affections of old age.

"Diseases of the critical time may be divided into—1st, those which are of very frequent occurrence, and may be foreseen; 2d, those which occur as a repetition of morbid phenomena observed previous to first menstruation; 3dly, there are others which escape all calculation, and cannot be explained by the well-known fact, that the impetus of morbid action tells most forcibly on the weakest organ; for we must be cautious not to consider as disease of the critical time that which would have been long before discovered if looked for. However, those complaints, which, although previously developed, proceed with increased activity after that time, may fairly be considered as the result of an alteration in the constitution brought about by the change of life.

"1st. Convinced that a minute investigation into the *natural history* of the phenomena of cessation could alone give me an insight into the diseases of that epoch, I have carefully noted the morbid phenomena which occurred at cessation in one hundred women, and it seems to me that some of the most frequent symptoms may be referred to the cerebro-spinal system, and others to the ganglionic system of nerves.

"*Cerebral Symptoms.*

"Headache, sick headache, hysteria, and pseudo-narcotism had existed at menstruation in	. . . .	64 per cent.
They were augmented in	36 per cent.	
" remained the same in	18 "	
" were less in	10 "	
" did not exist in	. . . .	36 "
		100

"Thus, when the habitual derivation from the sanguineous mass was no longer regularly performed every month, the cerebral symptoms were increased in thirty-six per cent.

"The most frequent of all the symptoms of menstruation is a peculiar cerebral symptom, not actual pain, sick headache, or hysteria, but *pseudo-narcotism*, which is a dull, heavy, stupid feeling, with a great tendency to sleep. It is seen in the greatest intensity previous to the first and last menstruation, and in the vigour of womanhood, as a consequence of the sudden suppression of the flow. It varies from a slight heaviness to variable shades of intensity, which prompt women, at different periods of life, to complain 'of a dimness of the eyes,' 'of heaviness in the head,' 'of a stupid feeling,' 'of a stupid headache,' 'of feeling heavy for sleep, but without pain,' 'of the possibility of sleeping anywhere,' 'of feeling lost and bewildered,' 'of a temporary loss of wits,' 'of the fear of going mad.' I recall the sense, although I may not the force, of the expressions by which I have so often heard women prove that the ovario-uterine organs have a specific influence on the cerebro-spinal system. It is so true that the peculiar state I have described resembles the influence of certain quantities of narcotic poisons on the brain, that when women of an advanced age present such phenomena, they are frequently, although in most cases erroneously,

† Avis aux femmes qui entrent dans l'age Critique, Paris, 1816.

accused of being fond of drinking, which is the best proof of the truthfulness of the term proposed."

"*Spinal Symptoms.*

"Spinal or dorsal pains had existed in . . .		70 per cent.
They were augmented in . .	46 per cent.	
" the same in . .	17 "	
" less in . . .	7 "	
They did not exist in		30 "
		100

"Hypogastric pains of a bearing down character, referred by women to the regions of the womb and ovaries, had existed in		51 per cent.
They were augmented in . .	30 per cent.	
" the same in . .	12 "	
" less in . . .	9 "	
There were none in		49 "
		100

"Thus, the nervous influence, which used to direct a regular discharge, is still in force, a fact proved by the persistence of the spinal pains in 70, and of the hypogastric in 51 per cent. They sometimes appear regularly every month, not unfrequently determining, in some severe cases, both leucorrhœa and diarrhœa.

"*Ganglionic Symptoms.*

"Am I wrong in referring the following symptoms, more particularly to that nervous system, the filaments of which, like a web, envelop the smallest arterial vessel in their inextricable mazes?

"Sensations of faintness, exhaustion, and sinking, often referred to the epigastric region, existed in . . .	26 per cent.
Heats and flushes were noticed in	38 "
Perspirations in	30 "
Drenching sweats in	16 "

"These symptoms, little dwelt on by pathologists, derive great importance from their frequency, and also from the insight they afford into the means by which nature relieves the system of the fluids that are no longer discharged every month; for when the periodical secretions from the uterine and the intestinal surfaces are checked, it seems as if the mass of fluids were often thrown on the extensive surface of the skin, which is so frequently found to stand in antagonistic relation to these surfaces; hence arise the heats, the flushes, the gentle perspirations by which, in the generality of cases, further mischief is prevented. It is not surprising that it should be so, for long ago, Sanctorious established, that 'insensible perspiration alone discharges much more than all the sensible evacuations put together.' *Sec.* i. *Aph.* iv.

"It will be remarked, however, that in sixteen per cent. the cutaneous exhalation, by its amount, became itself a disease, without relieving the patient so well as the more moderate exhalation; which would not be understood, were it not for the uncontradicted statements of the same accurate observer: 'That perspiration, which is beneficial, and most clears the body of superfluous matter, is not what goes off with sweat, but that insensible steam or vapour which in winter time exhales to about the quantity of fifty ounces in the space of one natural day.' *Sec.* i. *Aph.* xxi. 'Sweat is always from some violent cause; and as such, as static experiments demonstrate, it hinders the insensible exhalation of the digested perspirable matter.' *Sec.* v. *Aph.* iii.

"The drenching perspirations seldom last very long, but the heats, the flushes, the gentle perspirations, often continue to appear several times a day, ten or sixteen years after the cessation of menstruation." Dr. T. details a case to show the salutary effects to be derived from this agency.

"Acting on the principle of preferring a less to a greater evil, in two cases

wherein loss of voice occurred at the change of life, I have," he remarks, "given signal relief to the patients as soon as I have been able to determine the daily appearance of the flushes and perspirations; and as the patients had previously been under long and judicious treatment without much benefit, and as the great improvement in the voice of both ladies coincided with this determination to the skin, I consider that the patients' recovery should fairly be ascribed to that cause."

"Amongst other diseases occurring frequently at the cessation of menstruation, I must first notice those which implicate the organs that have attained the last stage of their functional activity, the womb and ovaries.

"I have already shown that flooding occurred, under various circumstances, in thirty-three per cent. of cases. An increased mucous secretion from the generative intestine is also a very frequent circumstance, for I found that—

"Leucorrhœa had existed in	58	per cent.
" was augmented in	44	"
" was stationary in	8	"
" was diminished in	6	"

"My experience confirms that of Lisfranc and Meissner, who assert that the cessation of menstruation is rather curative than productive of inflammatory diseases of the womb; the physiological atrophy of the organ checking its inflammatory development, for I only found four per cent. of inflammatory affections of the womb. It has happened that I have not met with a single case of cancer; but it is too well known that, at the change of life, women are more than ever, and more than man, liable to that terrific infliction; a fact which has been brought out in strong relief in the valuable table recently published by the registrar-general, and the latest of the many benefits conferred on the profession by Mr. William Farr.

"With respect to ovarian and uterine tumours, Dupuytren, who had for years vast opportunities of observation, and who paid great attention to the subject, asserted that one-tenth of all the women dying between forty and sixty, presented some abnormal development of the womb or ovaries. Meissner, so far as Germany is concerned, denies the accuracy of this assertion. I am not in a position to say how far it is true in England; but the table to which I have referred, shows that it is with ovarian tumours as with cancer, by far the greater number of cases occur between forty and sixty years of age.

"It is not difficult to understand that the pelvic plethora should often seek to find a vent on a surface immediately associated with the uterine; and accordingly it was found that—

"Hemorrhoids existed to various extents in	20	per cent.
They appeared for the first time after cessation in	12	"
" did not bleed in	4	"
" were bleeding in	8	"
" were considerably increased after cessation in	4	"
" remained the same in	2	"
" diminished at cessation in	2	"
Intestinal hemorrhage existed in	2	"

"In some cases, either because the intestinal plethora was less considerable, or because the nervous impulse was less, there was an increased mucous discharge from the intestines, instead of hemorrhage.

"Diarrhœa existed in	12	per cent.
" was irregular in	8	"
" was regular by coming on every month in	4	"

"When diarrhœa occurs at the change of life, it generally appears at irregular intervals; it may, however, adopt the regularity of the menstrual function, as in the instance of a lady forty-five years of age, in whom, at the accustomed time, diarrhœa came on, which the patient usually found to be the forerunner of menstruation. The former lasted three days, and gave relief, although it was not followed by the sanguinoid flow then, nor ever afterwards; thus, every month, for a whole year, diarrhœa came to the patient's relief.

"I lately met with a case where there had never been any premonitory diarrhœa; nevertheless, the cessation of menstruation was for five years followed by an habitual looseness of bowels, occurring two or three times a day, generally without colics. The patient enjoyed good health during that time, and is now a stout and tolerably healthy woman. Dr. Day notices the salutary effects of diarrhœa, consisting of watery evacuations, taking place without apparent cause, every three or four months after the cessation of menstruation; and he mentions the case of a lady eighty-seven years of age, in whom, for the last thirty years, this had occurred with great advantage. As a general rule, however, when diarrhœa has habitually accompanied menstruation, there is at the change of life a gradual diminution of both discharges, the cessation of the one marking the termination of the other.

"Such is the long list of infirmities which seem to me evidently dependent on the change; but to prevent an erroneous impression respecting the dangers of this crisis, we should observe that many of these diseases existed in the same patient, and that their repeated occurrence was spread over a space of time varying from one to ten years. The perusal of this list is sufficient to convince any medical man that the unavoidable diseases of cessation are more annoying than dangerous, and that the most frequent have attracted the least attention, while undue consideration has been given to those of less frequent occurrence.

"2d. With regard to the numerous other diseases which have been set down by some authors as those of cessation, there seems to be a possibility of preferring them to a law, expressed by saying, that *those affections which precede the first appearance of menstruation may likewise be expected to precede its cessation.* In proof that this position does not rest on my unsupported assertion, I shall state that Baron Alibert related to me that he had observed some cutaneous eruptions to appear twice only in life—once before the first menstruation, and once at its cessation. Brierre de Boismont, and other authors, likewise notice the appearance of hysteria and epilepsy before these two important epochs in the lifetime of woman, the patient's life having been free from these diseases during the intervening portion of their life. In my own practice, I have twice seen them preceded by an abundant eruption of boils, frequently by continued diarrhœa, and still oftener by a great amount of pseudo-narcotism and hysteria, in cases where there was little or none during the persistence of the menstrual function, childbearing, or lactation.

"3d. With respect to the other diseases of cessation, I can only repeat that their appearance depends on some constitutional peculiarity, and is governed by no other law except that which directs the impetus of any morbid action to the weakest organ. Frequently, however, this explanation will not hold good, as in the case of a lady who consulted me very lately. For the last ten years, since cessation, she had been more or less troubled with water-brash, although, previously to that epoch, she had never even suffered from indigestion."

Dr. T. remarks that he has only been able to sketch broadly the principal outlines of a most interesting subject, that has never yet been treated in a manner deserving of its importance. His object has been, to attempt to elucidate, from more careful investigations, some general rules of treatment, and the conclusion to which he has been led is, that *the regulation of the circulating and of the nervous systems* are the guiding principles of action, to be kept constantly in mind to promote the cure of, or at least to guard against, the diseases brought on by the change of life; and this can only be effected by combining a judicious regimen with various therapeutical means, to a consideration of which, the next and last chapter of the work is devoted.

But we must here close our notice of Dr. T.'s essay. Our extracts from it have already been extended to an unusual length. Our apology for this, if an apology be necessary, is the interesting nature of the subject to which those extracts have reference, and the fact that they present a more precise and consistent sketch of the pathology of what is termed "the critical age of women," than we have yet met with. We trust that Dr. T. will find time to prepare a more extended treatise on the subjects embraced in the present essay, and that, in preparing it, he will see the propriety of addressing it solely to the medical profession.

D. F. C.

ART. XXVII.—*On the Employment of Water in Surgery.* By ALPHONSE AUGUSTE AMUSSAT, of Paris. Translated from the French by FRANK H. HAMILTON, Professor of Surgery in the University of Buffalo, and one of the surgeons of the Buffalo Hospital. Buffalo, 1851: pamphlet, pp. 62.

THE original of this paper, or essay, was presented to the Faculty of Medicine of Paris by its author, the son of the distinguished surgeon of the same name, as his thesis, at the time that he was a candidate for the honours of the doctorate. The translator informs us that it is said "to have been written under the instruction, and to embody the experience, so far as relates to the use of water in surgery, of his illustrious father, and in so much it may be regarded as an original record of the views of a master."

The subject is treated of under two heads: first, the History of the Employment of Water in Surgical Practice; and second, General Considerations upon its Use.

The use of water as an external means of treating injuries is, of course, of almost as ancient date as the fluid itself. But commencing with Hippocrates, from "the vasty deep" of whose observations the germ, at least, of almost everything in medicine seems to be derived, M. Amussat traces its gradual introduction and application, as an article of the materia medica, to the present day. Its benefit once fully demonstrated, as it was even by Hippocrates, one would suppose that its popularity would have known no wane, for it certainly contains, within its legitimate range, every element to insure favour: it is simple, cleanly, everywhere to be had, and more cheaply, too, than anything else, and it is efficacious. But it has ever ebbed and flowed here, as in its parent seas, sometimes much extolled, again condemned. The reason for the neglect into which it has often fallen is probably that stated at p. 11 of this pamphlet: "The public value lightly what nature gives us in profusion; but places a high estimate upon that which is scarce, or comes from afar, or is perchance dearly purchased, or is involved in mystery. Many also think that a remedy so simple as water can have no efficacy."

The reader will be much interested with the historical sketch here drawn.

The second division of the subject refers to the practical employment of water in surgery, and is discussed in two chapters. In the first chapter, the author propounds and answers the following questions:—

1. What kind of water ought to be used in surgery?
2. What are the effects of water at different temperatures?
3. What, in general, is the most suitable temperature?
4. How long ought the water to be continued?
5. What are the advantages of the use of water at a suitable temperature?
6. What are the inconveniences which have been attributed to this agent?

The second chapter of this division, and the last of the essay, describes the principal modes in which water is applied in surgical affections. These may be briefly enumerated as, the *Water-dressing;* by *Irrigation*, several more or less complicated contrivances being described to accomplish it; by *Immersion*, or by local baths. The various circumstances to be attended to in the employment of these several means are mentioned in connection with each.

The thesis of M. Amussat contains much that is valuable with reference to the use of this simple, admirable, and indispensable agent in surgery, and it does not bestow more commendation than the agent actually deserves. We do not wish to detract from its merits, when we say that it contains nothing new in any particular, so far as we can see, nor does it deserve the appellation of being specially learned in research, or scientific in explaining the effects of the remedy which it justly extols. It is not the less a useful essay.

The translation is good; the defects which we have observed in our perusal are chiefly orthographical, and those of punctuation, mistakes which are undoubtedly owing to hasty perusal of the proof-sheets.

F. W. S.

ART. XXVIII.—*An Analysis of Physiology; being a Condensed View of its Most Important Facts and Doctrines, designed especially for the Use of Students.* By JOHN J. REESE, M. D., etc. etc. Second edition, revised and enlarged. Philadelphia, Lindsay & Blakiston, 1852: 12mo. pp. 368.

WE are pleased to see a new edition of Dr. Reese's very excellent manual. The discoveries and advances which are daily making in all that relates to physiology, demand a revision, at short periods, of every elementary work in relation to the science, in order that its teachings may be in entire accordance with received facts and opinions. The revision which the analysis of Dr. Reese has undergone in the edition before us is evidently very full and complete. The whole matter has been differently arranged, most of the text has been rewritten, and much new matter has been added. Its general accuracy and clearness of outline cannot fail to render this analysis a useful manual to the student of medicine, for whose benefit, more especially, it was prepared; whether as an introduction to the more extended treatises and monographs upon the several subjects of which it treats or as a guide to him in a review of his progress in this department of natural philosophy, or, finally, as a convenient text-book to a course of lectures.

We recommend this analysis of Dr. Reese to the medical student in the character solely in which it is presented by the author, that of a convenient manual, not as a treatise adapted to communicate to him all that is necessary for him to know—to indoctrinate him into the entire body of facts and doctrines that constitute the science of physiology. D. F. C.

ART. XXIX.—*Transactions of the Medical Society of the State of New York, during its Annual Session, held at Albany, February* 3, 1852. Albany, 1852: 8vo. pp. 160.

AMONG the prominent advantages which result from an organization of the regular members of the profession in district, county, and State societies, is the incentive it presents to the systematic study, by each physician included in these respective organizations, of the several forms of disease—their causes, character, usual course and termination—that fall under his immediate observation—and also to a careful observation of the effects of the remedies which have been recommended for their cure. While, at the same time, it furnishes, either directly or indirectly, a medium for communicating to the profession at large the results of this study and of these observations; causing thus the labours of the individual members most effectually to contribute to the augmentation and perfection of the common stock of medical knowledge.

Within a few weeks past we have had an opportunity of examining the *Transactions* of the Medical Societies of a number of the States—some which have been in existence for a long series of years, others of more recent origin—and we feel convinced that it is upon the labours of these State organizations, with those of the county, district, and local societies embraced in each, that we are mainly to depend, not only for a correct knowledge of the endemic and epidemic diseases of the several sections of our country and of the most effective means for their management, but also for the establishment of those educational and ethical improvements in our profession, calculated to elevate its members to the only standard which shall enable them to fulfil faithfully, in all their wide extent, the duties of the scientific and practical physician.

The *Transactions* of the New York State Medical Society, at its session of the present year, though no doubt calculated to exert a beneficial effect upon the condition of that portion of the profession the interests of which are committed

to its charge, present no very important contributions to either of the departments of medical science.

The Annual Address by the President of the Society, Dr. James H. Armsby, contains a very interesting sketch of the establishment of hospitals for the reception and treatment of the sick, and of their history from the ninth century to the present period. Though a mere outline, still the author has indicated most of the larger institutions of this kind now existing in Europe. He concludes by an appeal in behalf of the hospital in progress of erection in the city of Albany.

The second article in the present volume of *Transactions* is on Dislocation of the Femur on the Dorsum Ilii, by William W. Reed, M. D., of Rochester. This paper is one which demands the attentive perusal of every practitioner. The author has endeavoured to show that the ordinary means put in practice for the reduction of this dislocation are not only unnecessary, and subject the patient, consequently, to an amount of pain, and often prolonged suffering, which may be always avoided, but that they are founded on an incorrect idea of the chief resistance and obstacles to be overcome, in order to replace the head of the bone in its natural position.

The third article is on Epidemic Diarrhœa, by Dr. William Woodward, of Big Flatts. The remarks of the author are confined almost exclusively to the etiology of the form of diarrhœa—with bilious, mucous, or serous discharges—which more frequently occurs during the summer and autumnal months in his vicinity.

Dr. Woodward believes that the diarrhœa alluded to, proceeds from a source similar, but not identical with that which produces malarial fevers and Asiatic cholera; and this cause he supposes to be "the introduction and generation in the system of parasitic fungi or moulds."

The cryptogamous origin of disease is by no means a new doctrine. In its support, a series of specious arguments have been adduced by several of the older writers, and the series has been still further extended by one or two modern writers, by whom the doctrine has been revived. It is, however, when carefully examined, encompassed by so many difficulties, and so replete with contradictions, that it is impossible for it to be generally received, or to command even a large number of supporters.

A Biographical Sketch of the Life and Professional Character of Dr. James R. Manley, of New York, by Chas. S. J. Goodrich, of Brooklyn, follows next in order. It is very well drawn up, and does full justice to the character of the deceased, who, although a Philadelphian by birth, from his long residence in New York, and the many prominent positions that he there occupied through the partiality of the profession and the public, had become identified with the physicians of that metropolis and State.

The fifth article is an abstract of a case of Pleuro-pneumonia, by Dr. Samuel Shumway. It does not present any point of particular interest, excepting the rather uncommon fact of a natural cure of the empyema of the left pleural cavity being attempted by the formation of an external opening. The cure was finally effected by the performance of the operation for empyema.

This is followed by an address delivered before the Oswego County Medical Society, by its President, Dr. B. E. Bowen. Its subject is a brief history of the Society.

A highly interesting communication is next in order, On Deaf and Dumb Institutions, by Peter Van Buren, M. D. It does not admit of any satisfactory analysis.

Article eighth is on the Vital Statistics of the City of Brooklyn, by Charles S. J. Goodrich, M. D. By this it appears that the ratio of deaths to population in that city is less than 1 in 40.

The next article is a reprint of the very excellent report of the Committee on Medical Education, by W. Hooker, M. D., presented to the American Medical Association, at its session of 1851.

The volume closes with an abstract of the proceedings of the Society at its annual session of 1852. D. F. C.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Functions of the Membrana Tympani, the Ossicles and Muscles of the Tympanum, and of the Eustachian Tube in the Human Ear: with an Account of the Muscles of the Eustachian Tube, and their Action in Different Classes of Animals.*—By JOSEPH TOYNBEE, Esq., F.R.S. The author commences his paper by making some observations on the general arrangements of the *ossicula auditûs*. The malleus and incus being firmly connected together by ligaments, are considered as a single bone, forming an elastic arch, the anterior extremity of which is firmly attached to the Glasserian fissure, the posterior to the anterior part of the mastoid cells. The movement of this arch is that of rotation; and it is effected by the tensor tympani muscle. When this muscle contracts, the lower part of the arch, consisting of the handle of the malleus and the long process of the incus, is drawn inwards; by this action, the membrana tympani is rendered tense, and the stapes being pressed towards the cavity of the labyrinth, the fluid in the latter is compressed.

The anatomy and attachments of the *stapes* are next minutely described. The base of this bone (generally stated by writers on the physiology of the ear as being attached to the margin of the *fenestra ovalis* by a simple membrane, *ligamentum annulare bascos stapidis*) is shown to possess some points of considerable interest. Instead of a simple margin to which the ligament above noticed is fixed, the base of the stapes is said to present a circumferential surface for articulation with the fenestra ovalis. This circumferential surface, larger at the anterior and posterior extremities than in the middle, is covered by articular cartilage. The surface of the fenestra ovalis, to which the circumference of the base of the stapes is applied, is somewhat larger than that of the stapes. It is smooth, has a very compact structure, and is not covered by cartilage.

The base of the stapes is attached to the fenestra ovalis by two ligaments. The inner or vestibular ligament passes from the inner margin of the fenestra ovalis to the inner margin of the circumferential surface of the base of the stapes. The outer one passes from the outer margin of the fenestra ovalis to the corresponding margin of the stapes. These two circular ligaments leave between them a space which may be considered as an articular cavity; this cavity always containing a sufficient quantity of fluid to lubricate the articular surfaces of the bones.

The movements of the stapes are of two kinds, one being produced by the action of the *tensor tympani*, the other by the *stapedius* muscle. If the tensor tympani muscle be drawn in the direction of its course, while the cavity of the vestibule has been exposed to view, the base of the stapes will be observed to be slightly projected towards the cavity of the vestibule, and it returns to its normal position as soon as the muscle is left quiescent: the ligaments above de-

scribed appear to be the organs whereby the stapes is again drawn outwards. In these movements, the stapes may therefore be described as passing to and fro within the fenestra ovalis, as a piston does in a cylinder. The *second* movement of which the base of the stapes partakes is one of rotation, and it is effected by the stapedius muscle. To show this movement, it is requisite to perform one or two careful experiments. The stapedius muscle being exposed in its canal, while the stapes is left undisturbed in the tympanic cavity which has been laid open, if the muscle be drawn in the direction of its course, the anterior crus of the stapes is observed to move slightly outwards and backwards. In what manner the base of the stapes is effected during this movement of the crura it is difficult to decide; but it would appear probable that its anterior part is drawn outwards from the cavity of the vestibule, while the posterior part was pressed inwards, though to a less extent. That the action of the stapedius muscle is to relax the fluid of the labyrinth, is, however, shown by the following experiment: The tympanic cavity and stapedius muscles being exposed to view, a section is to be made through the cochlea, a small portion of the *scala vestibuli* being left continuous with the cavity of the vestibule. If the stapedius muscle be now drawn in the direction of its course, the fluid in the cut extremity of the *scala vestibuli* is observed to recede slightly towards the vestibule, and it returns to its former position as soon as the stapedius muscle is left quiet. A second action of the *stapedius* muscle is to act as a laxator of the membrana tympani, and it thus appears that the *stapedius* muscle is the antagonist of the *tensor tympani;* and it seems to be brought into action during the act of listening, while the *tensor tympani*, on the contrary, contracts when the ear has to be protected from any loud vibrations.

The next part of the paper is devoted to the consideration of the functions of the membrana tympani; which, besides the one usually ascribed to it, viz., of receiving the sonorous vibrations from the air, and of conducting them to the chain of bones and thence to the labyrinth, the author considers to be as follows:—

1. To act in conjunction with the ossicles and muscles of the tympanum as the analogue of the iris in the eye, and to exclude from reception by the labyrinth, of such strong vibrations as would be injurious to its integrity; also, in exactly opposite circumstances, to receive the most faint undulations, which would not be perceived unless the membrana tympani were rendered less tense than is the case in ordinary circumstances. The former of the two duties is performed by the *tensor tympani* muscle, the latter by the *stapedius*. The membrana tympani is not only of use in preventing powerful sonorous vibrations from compressing too forcibly the expansion of the auditory nerve, but it also protects the labyrinth from the forcible pressure of air, or of a foreign substance in the meatus, during a blow on the ear, or the introduction of a solid body which presses against the membrana tympani.

2. The membrana tympani shuts out the air in the meatus from that in the tympanic cavity, and by this means an atmosphere of certain physical conditions is constantly kept in contact with the membranes between the tympanum and labyrinth.

The *second* part of the paper contains a description of the Eustachian tube in man. Anatomists seem to have inferred that the Eustachian tubes, in their natural state, are constantly open, and that the air of the tympanic cavities is always continuous with that in the fauces. An examination of the guttural portion of the Eustachian tube in man and animals has led the author to conclude that, excepting during muscular effort, this orifice is always closed, and that the tympanum is a cavity distinct from the outer air. The agents whereby the Eustachian tubes are opened in the human subject are the muscles of the palate, and it is by their action, during the process of swallowing, that the tubes are ordinarily opened. That the act of swallowing is the means whereby the Eustachian tubes are opened, is shown by some experiments of which the following may be cited: If the mouth and nose be closed during the act of swallowing, a sensation of fulness and distension is produced in the ears; this arises from the air, which is slightly compressed in the fauces, passing into and filling the tympanic cavities; upon removing the hand from the nose, it

will be observed that this feeling of distension does not disappear, but remains until the act of deglutition is again performed, but while the nose is not closed; in this experiment, the Eustachian tubes were opened during each act of swallowing; but during the first act, while they were open, air was forced into the cavity of the tympanum by the contraction of the muscles of the fauces and pharynx, and the orifices were again closed, and remained so until the second act of swallowing, which opened the tube and allowed the air to escape. That the act of deglutition opens the Eustachian tubes, was inferred also from the custom usually adopted of swallowing while the descent in a diving-bell is performed; by this act the condensed air is allowed to enter the tympanum, and the sensation of pain and pressure in the ears is avoided. The author then proceeds to show that the tensor and levator palati are the muscles which are attached to and open the Eustachian tubes in man, and the mode in which they act is pointed out.

The *third* part of the paper is devoted to the examination of the Eustachian tube in animals: and the author arrives at the conclusion that, in Mammalia, Birds, and those reptiles having a tympanic cavity, the Eustachian tubes, as in man, are closed, excepting during muscular effort. In some *mammalia*, the muscles opening the tubes are, as in man, those belonging to the palate; in others, the function is performed by the superior constrictor of the pharynx. In *birds*, it is shown that there is a single membranous tube, into which the two osseous tubes open; this membranous tube is situated between, and intimately adherent to, the inner surface of each pterygoid muscle, and by which muscles the tube is opened.

The conclusion respecting the influence of the closed Eustachian tubes, to which the author arrives, is that the function of hearing is best carried on while the tympanum is a closed cavity; that the analogy usually cited as existing between the ordinary musical instrument, the drum, and the tympanum, to the effect that in each it was requisite for the air within to communicate freely with the outer air, is not correct. The view that the sonorous vibrations of the air in a closed tympanic cavity are more effective in impressing the membrane of the fenestra rotunda than when it is open to the outer air, is strengthened by the performance of the following experiment with the tuning-fork: If this instrument be made to vibrate by striking it against a firm solid, and if the handle be then placed in contact with the head, the sound, at first loud, gradually becomes fainter, and soon ceases to be heard; if, at the moment that it has ceased to be heard, a finger be placed over the tragus of one ear, and firmly pressed so as to close the external meatus from the outer air, the sound of the tuning-fork is again heard, and continues to be heard for some seconds; thus showing that the sonorous undulations existing in the external meatus were not sufficiently powerful to sensibly affect the membrana tympani until they were wholly confined by the walls of the tube when closed.

The leading results arrived at in the paper are as follows:—

1. That a principal function of the membrana tympani muscles and ossicles of the tympanum, is to act as the analogue of the iris in the eye.

2. That the tensor tympani muscle, by drawing tense the membrana tympani, and by compressing, at the same time, the fluid in the labyrinth, protects the ear from the injurious influence of very powerful vibrations.

3. The stapedius muscle, by slightly relaxing the membrana tympani and the fluid of the labyrinth, places the ear in a position to be influenced by vibrations of a most delicate character.

4. Another function of the membrana tympani is to form part of the resonant walls of the closed tympanic cavity.

5. The guttural orifices of the Eustachian tubes are closed, and the tympanic cavities do not communicate with the cavity of the fauces, excepting during certain muscular actions.

6. In man and some mammalia, the Eustachian tubes are opened by the muscles of the palate; in other animals, by the superior constrictor of the pharynx.

7. In birds, there is a membranous tube common to the two osseous Eusta-

chian tubes, and this common tube is opened by the action of the internal pterygoid muscles.

8. For the function of hearing to be perfect, it is requisite that the tympanic cavity should be closed from the outer air.—*Proceedings of Royal Society.*

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2. *On the Structure, Function, and Diseases of the Liver; and on the Action of Cholagogue Medicines.*—C. Handfield Jones, M. D., in a communication read before the Royal Medical and Chirurgical Society, described the minute structure of the liver as consisting essentially of a mass of nucleated cells or celloid particles, usually more perfectly formed than the cells either of the salivary or renal glands, presenting a distinct nucleus, with a nucleolar spot, an exterior envelop, and an included mass of soft, semi-solid, albuminous substance, which commonly contained a few oily molecules. In addition to these, in well-nourished livers, were numerous free nuclei, imbedded in albuminous blastema, which exhibited various stages of progress towards the mature or perfect cell. The oily contents of the cells were subject to great variation, both in the same individual and in different classes of animals;—the less perfect the type of the respiratory process, the greater the quantity of oily matter in the hepatic cells. The cells in their general mass constituted the hepatic parenchyma; this might be subdivided into smaller portions, called lobules, which were separated from each other more or less completely by fissures, the fissures themselves being continuous with canals that ramified throughout the parenchyma, and which, from containing the portal vein and its associated vessels, had been termed portal canals. In reference to the mode of distribution of the vessels, originally so well expounded by M. Kiernan, the author remarked that he decidedly agreed with Theile, who denied the existence of the vaginal branches and plexus of the portal vein mentioned by M. Kiernan. The author quoted from a paper by Mr. Paget, who had described these vaginal plexuses to be derived, not from the portal veins, but from the hepatic arteries, from which they were completely filled, when both arteries and veins were at the same time injected. The interlobular portal veins were therefore derived directly from the portal veins; and those which appeared to be vaginal branches of the portal vein were its internal roots, by which it received the blood which had served for the nutrition of the hepatic ducts and other vessels of the liver. After alluding to the mode of ramification of the hepatic artery, and the divisions of the hepatic ducts following the branches of the portal canal, the author referred to the relation which existed between the ultimate ducts and the cells constituting the parenchyma of the lobules. The prevalent opinion had been, that these cells were exactly homologous to the cells of the renal tubuli or salivary vesicles, like them growing on a free surface open to the exterior. Hence some anatomists had believed they had detected a basement-membrane, forming anastomosing tubes, constituting a true lobular biliary plexus. Others, unable to find a basement-membrane, had described the ducts as continued into the parenchyma of the lobules, as channels without proper walls, mere intercellular passages. After referring to the researches and opinions of Weber, Müller, Professor Retzius, on the one side, and of Val Guillon, Gerlach, and Dr. Carpenter, on the other, the author stated that the views of Kölliker, who denied the existence of intercellular passages in the lobule, agreed very nearly with his (the author's), and conceded his main position, that the cavity of the ducts was quite shut off from the cells of the lobules or their interspaces. The structure of the ultimate ducts, which the author had first discovered, was peculiar, and seemed to indicate strongly that they exerted active functions, and that they were something more than mere afferent canals. The injection of the duct, in the livers of pigs, by the double method, using separately saturated watery solutions of bichromate of potass and acetate of lead, exhibited an abundant yellow precipitate in the fissures; but in very few parts did it penetrate the lobules, which must have happened if there existed a lobular biliary plexus, or a plexus of intercellular passages. The author conceived, therefore, that the hepatic ducts did something more than merely carry out already elaborated bile. The ultimate ducts were far too small, and too sparingly distributed, to be able to take up the bile from so vast a mass of cells as that which consti-

tuted the parenchyma. If the ducts did not extend beyond the margins of the lobules, of which the author had no doubt, then the bile must be transmitted from cell to cell; or there was a march of cells outwards from the centre to the circumference; or else the bile, arriving at the margin of the lobules, was taken up by the ultimate ducts in some unknown way. The author thought such assumptions groundless and unnecessary; and that the pathological state of fatty liver, as well as the fatty liver occurring naturally in fishes, showed that the secretion of the parenchyma was not identical with that of the ducts, for the gall-bladder could hardly contain deep-green bile, when the parenchyma was naught but a mass of oil. He concluded, then, that the parenchymal cells of the lobules did not merely secrete bile which was carried off unaltered by the ducts, but that the cells secreted biliary material, or some of its components, which were not fully elaborated or formed into perfect bile, except by the action of the ultimate ducts. Proof was then offered that the hepatic cells did not ordinarily contain bile, although it was commonly held they did. He believed that to be a diseased or exceptional condition, not found in the hepatic cells of slaughtered or healthy animals. Furthermore, a yellow tint in the cells was no proof of the presence of bile; it showed merely the presence of pigment, and yellow pigment is found in the fat of some animals quite independent of biliary secretion. Chemistry must be resorted to, to solve the question of the presence of bile in the hepatic cells. The author had made alcoholic extracts of the livers of different animals, and having evaporated to dryness, the residue, when dissolved in water, failed to show, by Pettenkoffer's test, any reaction characteristic of the presence of the bile. The author, however, did not wish to express a positive opinion, but he thought that the received opinion had need of more direct evidence, before it could be regarded as proved. He then detailed the mode in which the morphological structure of the ultimate biliary duct fulfilled the function of secretion. The chemical changes which the ultimate ducts effected, might be conceived according to the hypothesis of Lehmann; and a summary of our present knowledge might stand as follows: sugar, oil, and a yellow pigment were found in the parenchyma of the liver; bile is not found there, but in the ducts; it is inferred, then, that the ducts, through their ultimate extreme portions, *make* the bile. The author next proceeded to detail some experiments made relative to the action of cholagogue medicines, the results of which led him to believe that mercury, muriate of manganese, and colchicum, were the only ones which seemed to increase the production of yellow pigmentary matter in the cells of the liver. They also increased the production of glyco-cholite and tauro-cholite of soda; but it had to be determined whether the quantity of these principles was always proportionate to the yellow pigment. It was clear that the cholagogue action of a medicine, its emulging effects on the ducts, was distinct from that which it excited in the production of biliary pigment. One very important effect of the administration of mercury on the liver, was noticed to be congestion of this organ; an argument rather forbidding the use of the remedy in inflammation of the substance of the liver, a plan otherwise recommended by analogical experience. The author then passed to the subject of diseases of the liver; the microscopic appearances of fatty liver were detailed, and the question, what constituted true fatty degeneration of the liver, discussed. Was it a simple increase in the quantity of oil naturally existing in the hepatic cells, or was it a further and more important change? He believed the latter. In the liver of animals artificially fed on oily food, and subsequently examined, the cells, as well as the inter-cellular substance, were loaded with oil-molecules: the accumulation of oil was equal everywhere. But in the morbid state of fatty degeneration, the oil-drops were not inclosed in distinct cells, but appeared to lie in an indistinct and granular, or semi-fibrous substratum. Another point of difference consisted in the absence of sugar in true fatty degeneration; while in the liver of an animal, fed on oily food to produce a fatty liver, sugar could be detected. Another point of importance was the limitation of fatty degeneration to the margin of the lobules; it was not a mere accumulation of oil in the marginal cells, but a destruction of those cells; a liver thus affected presented the lobules marked out by a zone of opaque matter. No satisfactory explanation

of this tendency of oil to accumulate in the marginal cells could be offered. Fatty degeneration of the liver might occur in very different diseases; it was by no means peculiar to phthisis. Reference was then made to the waxy liver of Rokitansky, with which the author was not sure that he was acquainted. Cirrhosis was then mentioned, and Rokitansky's description quoted, as also that of Dr. Budd, whose views expressed the opinion ordinarily received, but from which the author in some degree dissented. The author believed that an unhealthy nutritive process was the essence of cirrhosis, and might be developed in one of three situations. 1. In the larger and moderate-sized portal canals, excluding only the smallest. 2. In these last, and in the fissures. 3. In the smaller canals and fissures, and in the substance of the lobules. The first form produced common *hobnail* liver; the second and third, the tough, firm, dense liver, sometimes termed brawny. The author considered cirrhosis to represent essentially a degenerative process, and to arise from the effusion of an unhealthy plasma, not only in the canals and fissures, where it induced unnatural increase, but also in the external part of the lobules, where it passed into a solid form, and constituted an amorpho-granular substance, compressing the capillaries and obstructing the secreting cells. The thickening and condensation of the fibrous tissue in the liver were thus not so much the effect of an inflammatory action, as of a low degenerative process, analogous to that which stiffened the valves of the heart and contracted the orifices; and which view the author thought was supported by the results exhibited in a table appended to the paper. The subject of jaundice next received attention. This was a disease that manifestly resulted from the conveyance into the blood of bile pigment, a constituent of the bile which was essentially excrementitious, and intended to be cast out with the fecal matter. In many cases it existed only as retained excretion; in others it seemed to be formed in excessive quantity, as in the acute yellow atrophy of the liver. Yellow matter was often found in the central cells of the lobules, and nevertheless, there was no jaundice. It should be borne in mind, that the yellow pigment, as it existed in the cells, did not evidence the presence of biliary matter, of cholic acid, or its conjugates. The yellow matter could be extracted by alcohol, and its characteristic reaction obtained by nitric acid, but Pettenkoffer's test decided against the presence of any organic biliary acid. The deep colour of the urine in jaundice depended on the presence of bile pigment solely; no trace of cholic acid was discoverable. The author considered the majority of cases of jaundice to depend on the absorption into the blood, not of completely formed bile, but of one of its constituents only, the yellow pigment; and this might take place in one of three ways: 1, by a mechanical obstruction to the flow of bile into the intestine, through the ductus communis choledochus; 2, from inaction of the elaborating ducts; 3, with or without impairment of the action of the excretory ducts, when an increased quantity of yellow pigment was formed in the parenchyma of the liver.—*Lancet*, June 26, 1852.

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3. *Connection of the Recollection of Words with the Anterior Lobes of the Brain.*—Dr. Alison observed, at a meeting of the Edinburgh Medico-Chirurgical Society (3d March, 1852), that he recollected three fatal cases occurring in the hospital, in which the evidence was as strong as single cases could afford, against the notion of the connection of the power of speech, or rather the recollection of words, with the anterior lobes of the brain. In one, an abscess as large as a hen's egg had formed in one anterior lobe of the brain, and the other lobe had been considerably displaced by the enlargement of the diseased one; but this man had showed no loss of recollection of words up to six hours before death, when he became comatose. In the other two cases, there had been almost total loss of the memory of words (along with hemiplegia), for many months before death; and the acts of mind, which seemed nearly natural, had been expressed by signs almost entirely; but in both these the anterior lobes of the brain were found to be sound, and the disease was confined to the outer side of the corpus striatum of the hemisphere opposite to the palsied limbs.—*Monthly Journ Med. Sci.*, May, 1852.

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4. *Lateral Hermaphroditism.*—Dr. Banon brought before the notice of the Surgical Society of Ireland (May 1, 1852) a very remarkable instance of lateral

hermaphroditism—a fusion of the generative organs of both sexes. The subject of it had died of phthisis. Dr. B. had not become acquainted with the sexual peculiarities of this individual until shortly before death. Dr. B. ascertained, however, that at the birth of the individual there was considerable doubt as to the predominant sex, but that at length it was pronounced to be a female, and baptized by the name of "Anne." In a year subsequently, however, the organ representing the penis had so increased in size that a different conclusion was arrived at, and the name changed to "Andrew," since which period he had been always treated and looked on as a male; and as he grew up, even excelled in many of the manly exercises. His predilections were, according to his own statement, for females, and it was ascertained that he had never menstruated.

Dr. Banon gave a full and minute description of the external and internal organs of generation which were present in this individual, by which it appeared that he possessed a penis of the usual size in the male adult, and provided with glans and prepuce, but that it was imperforate, a rudimentary opening only existing in the site of the orifice of the urethra. The individual had himself stated that it was, during life, subject to erections. On raising up the penis, Dr. Banon observed that the female external organs were present in a nearly perfect condition. The labia were well marked, but terminated behind rather abruptly, the fourchette being absent. Within these the nymphæ were seen occupying their usual situation, and between them there was a longitudinal opening which led directly to the bladder. Behind this urethral opening was observed one of a more circular form leading to a canal in the direction of the uterus, and separated from the bladder in front and the rectum behind by distinct septa. This orifice was so small as to admit only of a No. 8 catheter, and was surrounded posteriorly by a distinct hymen. The mons veneris was not developed, which might have been owing to the great emaciation present. Many of the secondary characters of the male were observed. The hair, arms, hands, lower limbs and feet, the larynx, all partook of the male character. The voice, during life, was decidedly masculine.

On the other hand, there was a feminine character in the features of the upper part of the face, and the pelvis and skull were decidedly those of the female. The occipital regions of the latter were unequally developed on each side, which point was dwelt upon by Dr. Banon as illustrating, in this instance, the interesting physiological fact, that the development of the reproductive organs is influenced by this portion of the brain, these organs being, as he afterwards pointed out, situated principally on the side of the body opposite that of the increased development in the posterior lobes of the cerebrum and cerebellum.

On dissection, the penis was found to be composed of cruræ, uniting in the usual manner to form the body. A substance, similar to the corpus spongiosum urethræ, could be traced anteriorly to the glans, and behind becoming bifurcated to inclose the longitudinal opening leading to the bladder. The prostate and Cowper's glands were absent. The spermatic cord on the right side was large. On the left, it rather deserved the name of the round ligament of the female.

On dissecting the parts within the pelvis, a well-formed but small uterus was found in its normal position between the bladder and rectum. It was supplied with but one Fallopian tube, which passed from its left cornu backwards and inwards, between the rectum and uterus, to the right side of the latter, where it terminated in a well-marked "corpus fimbriatum," being permeable throughout its whole course.

The corpus fimbriatum rested on an ovary which, as well as the Fallopian tube, was single, no trace of a second being visible. Not far removed, however, from the ovary already mentioned, was observed a testis, pendulous into the true pelvis, in front of the right sacro-iliac synchondrosis, and immediately behind the internal iliac artery, as it descends into the pelvis. Applied to its anterior surface was seen the epididymis in a partially unravelled state, and the spermatic artery and vein were traced into close connection with it. The vas deferens was plainly seen emerging from the epididymis, and taking a remarkable course—at first, forwards and outwards, in the direction of the right

internal abdominal ring, to which it had reached about half way, when it turned back, forming a loop, with the convexity towards the ring: it then took its course inwards and somewhat backwards, in the direction of the uterus, to which it was finally conducted by the broad ligament of the right side. It could be traced into the substance of the uterus, into the cavity of which Dr. Banon proved that it opened by pressing mercury gently through it. Dr. Banon could not find any trace of vesiculæ seminales, nor of a second testicle. Dr. Banon here gave a minute description of his dissection of the different organs, and of the appearances of some of them under the microscope, which enabled him to speak with confidence of their identity. He then entered at some length into the discussion of the means of discriminating between the spurious forms of hermaphroditism and those which are entitled to be considered as a real blending together of the reproductive organs of both sexes, or the "true hermaphroditism;" and cited some remarkable cases, both in the human subject and the lower classes of animals, in which both forms had been observed. In the present instance, he came to the conclusion that it should be placed under the division of "true hermaphroditism," termed "lateral" by Professor Simpson. Dr. Banon also alluded to some of the most interesting of the physiological changes which take place in the earlier development of the embryo, and explained how an error of function at this period in the corpora Wolffiana, by which both the male and female reproductive organs, the testes and ovaries, are originally formed, would be likely to cause subsequent anormalities and malformations to appear. He also entered into the question—How far the conditions necessary for self-impregnation were present in the case of Andrew R.? And although he was obliged to admit that were the testis by any means so excited as to cause its secretion to pass through the vas deferens into the uterus, there was nothing to prevent the semen from proceeding farther, through the Fallopian tube, to the ovary; still, from the absence of the procreative elements (the spermatozoa) in the seminal fluid, as proved by the microscope, and also of the germinating elements of the ovary, self-impregnation in this instance could not have occurred. Dr. Banon concluded a highly interesting paper by stating that it was his intention to publish it in full, and bring it before the profession in a form rendered complete by the addition of lithographic plates of the drawings and casts which he had now the pleasure of exhibiting to the Society.—*Dublin Medical Press*, July 21, 1852.

5. *Absence of Sternum.* By Dr. Benjamin.—This was observed in a girl (aged 11) yet living. The true ribs are connected together on each side by a strong, narrow, cartilaginous band, the two bands being joined below by a commissure. Between them a space about as broad as the normal sternum exists, filled only with soft parts, and rising and falling with the systole and diastole of the heart. The thorax, deeply depressed where the sternum should be, is elsewhere much vaulted, and appears to be still more so than it really is, from a deep depression in the abdominal coverings, immediately under the commissure. At this spot there is a firm ligamentous mass, connecting the commissure and the false ribs together. The interclavicular ligaments and the anterior ligaments of the cartilages of the ribs are wanting; but the two cartilaginous bands impart to the thorax sufficient firmness, and allow of its mobility, although no movement of the anterior ends of the ribs on their axes can take place. The respiration is, however, but little impeded from this. The muscles of the thorax which have attachments to the sternum are, as far as can be ascertained, attached to the cartilaginous bands or their commissure. The heart is pushed towards the right side, and its apex beats between the fourth and fifth ribs. It is directly in contact with the skin in the space between the cartilaginous bands, and its pulsations, though not abnormal, are there visible. During deep inspirations, the skin in the sternal region is projected strongly forwards. The liver is felt high up under the thoracic parietes. During the first years of life the girl suffered from a difficulty of breathing, which has now ceased, except when she ascends stairs hastily. She is in good health, but not strong; and none of her four sisters have any organic defect.

Dr. Vaughan describes (in the *New York Med. Repository*, 1801) the dissection

of a child, aged 13, who from its birth had suffered from difficulty of breathing. The sternum was found absent, its place being supplied by a small connecting cartilage. The heart was very large, and the pericardium full of fluid. The liver extended into the mediastinum. Another case is related by Dr. Saske, in the *Oesterr. Med. Wochenschrift*, 1844, which refers to a man, aged 22, who had always enjoyed good health, and followed his occupation as a musician, notwithstanding the absence of the sternum. The ribs were connected by a cartilaginous border, a rudiment of the xiphoid cartilage alone existing. He did not apply on account of disease; but to be examined for exemption from military duties. Sömmering also met with a living man destitute of sternum. Wiedemann relates another example in his Programma upon the subject.—*Brit. and For. Med.-Chirurg. Rev.* from *Oppenheim's Zeitschrift*, Bd. lxiv. p. 91.

ORGANIC CHEMISTRY.

6. *Presence of a Free Acid in the Lungs.*—M. Verdeil states that he has found in the parenchyma of the lungs of mammalia a distinct acid, which he has succeeded in obtaining in an isolated, perfectly pure, and crystallized condition. The tissue of the lung of an animal lately killed did not sensibly redden the blue turnsole paper. But when a mass of lung, cut up very fine, was macerated in warm water, it was found that the liquor possessed an acid reaction; which reaction became very manifest when the albumen and blood-globules which coloured the liquid were coagulated.

This acidity is stated to be owing to a free acid in solution, in the juices with which the lungs are impregnated. This substance is formed of carbon, hydrogen, azote, and oxygen, in definite proportion. It crystallizes in brilliant needles, strongly reflecting the light. It is somewhat soluble in cold water, nearly insoluble in cold alcohol, but more soluble in boiling alcohol. Boiling absolute alcohol dissolves a very small quantity only. It is completely insoluble in ether. It possesses an acid reaction, and expels the carbonic acid from carbonate of potash and soda. When heated to 140 degrees, it does not lose water of crystallization; at a higher temperature it crepitates, becomes opaque, and is decomposed, giving rise to empyreumatic products; it forms a carbonaceous mass, which disappears completely, leaving no trace.

The parenchyma of the lungs, therefore, contains a free acid. The author has also been able to prove that a portion of the acid which he extracted from the lungs existed in the tissue as a salt of soda.

In reflecting upon the probable use of this acid, he observes, that submitted to the general laws which govern chemical substances, it ought to decompose the alkaline carbonates carried by the blood; these, meeting in the lungs with the acid contained within the tissues, ought to form a new salt of soda, and carbonic acid should be set free.

The pulmonary vesicles constantly secrete this acid, which, coming in contact with the carbonate of soda brought by the capillaries, the acid combines with the soda of the carbonate; the carbonic acid becomes free and passes off in respiration. The new salt of soda returns in the blood where it was found, not free, but combined with the soda. This research was continued; all the characters of the acid and the phenomena of respiration concur to verify, not a theory, but the fact that an acid constantly secreted by the parietes of the pulmonary vesicles decomposes the carbonate of soda of the blood, and sets its carbonic acid free. This fact explains, amongst other physiological observations, the decomposition of the alkaline cyanurets and bicarbonates injected into the blood, when they arrive in the lungs, as M. Bernard has observed.—*Prov. Med. and Surg. Journ.* July 21, from *Gazette Médicale de Paris.*

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7. *On the Gastric Juice of the Jackal.*—A large jackal having been killed near the Hymettus, Dr. Landerer took the opportunity of examining the condition

of the gastric juice. He found in the stomach a small quantity of a very acid fluid, which turned the edge of the teeth, and effervesced with carbonates. As the chief constituents of this fluid, he found free muriatic acid, acid phosphate of lime, muriates, sulphates, an albuminous matter, colouring matter of the bile, and a fatty substance extractable by ether. As the digestive powers of this animal are so powerful, he experimented upon an artificial digestive fluid, formed by digesting the mucous membranes of the stomach in water, to which a few drops of muriatic acid had been added. The fluid thus obtained exerted a remarkably powerful effect on coagulated albumen, meat, and other articles of diet. Some of it administered to one of his pupils, who suffered from indigestion and flatulence after taking the lightest articles of food, enabled him to manage those of very indigestible quality with ease.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *Buchner's Repert.* Bd. viii.

8. *On the Action of Ozone on Miasmata.*—M. Schönbein's additional researches have still further developed the analogy of this substance to chlorine, and leave no doubt of the injurious effects it may exert on the respiratory organs when in excess. Mice soon perish in an atmosphere containing $\frac{1}{50000}$. The quantity which prevails in the atmosphere is very variable, being proportionate to the amount of electricity, and therefore at its maximum in winter, and its minimum in summer. It is, however, highly probable that, when existing only in minute quantities, it exerts a purifying effect on the atmosphere by destroying various deleterious miasmata. There are a great number of inorganic gaseous bodies, which, when diffused in scarcely appreciable quantities, yet render the air irrespirable—such as the gaseous compounds of hydrogen with selenium, sulphur, phosphorus, and arsenic—gases characterized by the facility with which they become oxidized. Ozone belongs to a class of bodies which, as agents of oxidation, rapidly destroy these hydrogenous compounds. An incessant source of miasmata exists in the variety of gaseous compounds which are incessantly liberated by the decomposition of the innumerable masses of organic beings which perish on the surface of our globe. Although the composition of most of these is unknown, it is to be supposed that their accumulation would render the air unfit for respiration. Nature has, however, provided the means of destroying such deleterious compounds as fast as they are generated, for M. Schönbein regards ozone, which is so constantly generated under electrical influence, and is so powerful an agent of oxidation, even at ordinary temperature, as specially destined to that end. His experiments prove that air containing $\frac{1}{50000}$ of ozone can disinfect 540 times its volume of air produced from highly putrid meat; or that air containing $\frac{1}{3333333}$ of ozone can disinfect an equal volume of air so corrupted. Such experiments show how little appreciable by weight miasmata may be, which are yet sensible to the smell, and how small is the proportion of ozone necessary for the destruction of all the miasmata produced by the putrefaction of organic matter, and diffused in the atmosphere.

We may admit that the electrical discharges which occur incessantly in different parts of the atmosphere, and determine there the formation of ozone, purify the air by ridding it of oxidizable miasmata. At the same time that these are destroyed by ozone, the organic miasmata cause its own disappearance, and prevent dangerous accumulation of it. The opinion that storms purify the air may not be without foundation, as a large quantity of ozone is then produced. In the author's experiments, he has always found a large proportion of ozone in the vicinity of the stormy clouds on the Jura; and air ozonized by phosphorus, for experiment, gives forth a similar smell to that perceived amidst storms in mountainous regions. It is very probable that, in certain localities, the balance between the ozone and the miasmata does not prevail, and disease may be the consequence. As a general rule, however, numerous experiments have shown that the air contains free ozone (though in very different proportions), so that no free oxidizable miasmata can there exist. M. Schönbein recommends that the atmosphere should be tested for ozone, in localities and at periods where fevers and other forms of disease prevail, so that the results of accumulated observations may be obtained.—*Brit. and For. Med.-Chi-*

rurg. Rev. July, 1852, from *Arch. des Sciences* (*Genève*), tom. xviii. and *Henle and Pfeufer*, N. S. Bd. i.

9. *On the Fats of Different Regions of the Body.*—M. Lassaigne, from a variety of examinations, concludes—1. That the fat of the same animal does not present the same composition in the different regions of the body in which it is deposited. 2. That the proportions of stearine and elaine differ in these fats. 3. That the point of fusion of fatty bodies extracted from animals is in general high, in proportion as the fat has been taken from around deep-seated organs. 4. That the quantity of stearine separable by the action of solvents is in an inverse proportion to the fusibility of such fats.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *Journ. de Chim. Med.* 1851.

MATERIA MEDICA AND PHARMACY.

10. *Physiological Action of Quinine.*—Professor J. H. Bennett, in a clinical lecture (*Monthly Journ. Med. Sci.*, June, 1852), has made some interesting remarks on this subject. "The physiological effects produced by large doses of quinine are worthy," he remarks, "of observation. With these I became first familiar in the wards of M. Piorry, in La Pitié Hospital, Paris, during the year 1838. At that time quinine was given in enormous doses, with a view of cutting short intermittents, and diminishing the size of the spleen. In this way I frequently saw fifty grains of quinine and one hundred grains of salicine given in one dose, the administration of which was followed by the same effects you have observed to follow repeated doses of ten grains in the Royal Infirmary. In both cases the principal phenomena induced are vertigo, dizziness of vision, ringing in the ears, often complete deafness, with confusion of ideas, occasionally coma with contraction of the pupil. At the same time the force and frequency of the heart's contractions are diminished, and the pulse, from being 120, strong and full, was frequently reduced in a few hours to eighty beats, which were soft and even weak. The skin at the same time becomes cool and often moist from slight diaphoresis. This sedative action on the heart is apparently the result of the comatose condition produced by the primary action on the brain, as is proved by the fact that the disappearance of the cerebral, induces cessation of the circulatory phenomena. In large doses, therefore, quinine is a narcotic. Its action in intermittent fever, however, cannot be owing to this property. Of late years it has been called an antiperiodic, from the specific effects it exercises, not only on intermittents, but on all diseases which exhibit a tendency to return at periodic intervals, as certain cases of epilepsy, neuralgia, and even relapsing fever. This property is altogether peculiar, and is distinct from what ought to be understood by febrifuge, unless, indeed, the statements and views of Dr. Dundas should be subsequently confirmed.

Quinine is also spoken of as being a tonic when given in small doses. This property seems to have been attributed to it on account of its bitterness, as well as its remarkable effects in the cure of ague. But whether it increases the appetite, stimulates the digestive organs, or in any other way operates by increasing the tone of the system and improving the nutritive powers, is a circumstance which, though generally adopted as true, admits of strong doubt. If quinine be a sedative in large doses, it is the only one of that class of remedies which is tonic in small doses. No doubt it is very frequently given to convalescents and weakly persons, who get better under its use; but whether this is owing to the quinine, or would not have occurred equally well without it, is a matter very difficult to determine. Of one thing I am satisfied, namely, that it is far inferior in tonic properties to many metallic and other vegetable drugs, and, consequently, a medicine with such known valuable anti-periodic properties, the supply of which also is yearly diminishing, should not be wasted in

endeavouring to produce effects so very doubtful as the tonic virtues which have been ascribed to it. For many years, therefore, I have not given quinine as a tonic, and have yet to meet with a case where it is necessary to administer it in order to increase the strength of the system.

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11. *External Use of the Nitrate of Lead.*—Dr. OGIER WARD was induced to make use of this preparation in cases accompanied by fetid discharges, observing its advantages as a disinfectant under other circumstances.

The first case in which he used it with this intention was that of a lady, whose lochia were so offensive as to scent the whole house, and nauseate even the nurse. It was used as an injection; and the third application effected the complete removal of the fetor.

He has also used it with success as a lotion for sore legs when in a sloughy and indolent condition, and finds that it soon restores them to a healthy state, inducing a proper secretion of pus, with firm granulations on the surface of the ulcer.

He has not used the nitrate in acute gonorrhœa, but states that it acts admirably as an astringent in gleety discharges, as well as in those of cancer uteri, whether sanious or purulent. In short, as a lotion it is as extensively useful as the diacetate of lead, while it is superior to that preparation by its disinfecting property.

In chronic cutaneous diseases he has seen the most remarkable instance of its efficacy in a case of eruption, of a kind of rupia or impetigo of five years' standing. The complaint broke out on the vertex of a woman, æt. 50, and, leaving its original site, it has gradually crept down over the forehead, nose, and cheeks, to the level of the mouth. The primary form of the eruption consisted of inflamed, flattened pustules, slightly elevated above the surrounding skin, which, discharging their contents, formed thick, rough, yellowish crusts, or scabs, fissured in all directions, like those of crusta lactea, which, firmly adhering and growing from their base, like rupia, for a longer or shorter time, fell off at last, leaving cicatrices of various shapes, exactly like the seams and pits of smallpox. The patient came under Dr. Ward's care some months ago, when he tried many remedies, both internal and external, in vain, quinine being the only one that produced any good effect, and this not permanently. As the skin around the sores and where they had healed seemed in a state of hypertrophy, the papillæ projecting in many places as in elephantiasis, it occurred to him that the best way to check the progress of the disease would be to apply some penetrating astringent to the surface; and with this view he ordered a lotion of the nitrate of lead, with quinine internally. In the course of a few days, the eruption ceased to make any progress, the crusts began to fall off, and the skin to lose its redness and swelling; and in a fortnight every sore was healed, though the face and forehead remained still seamed with scars. There has been no fresh breaking out for some weeks, though, as the nose is still red and swelled, he has ordered the continuance of the lotion.

The formula he generally uses is the following: ℞.—Plumbi carb. scr. j; Acid. nitr. dil. q. s. ad solvendum; Aquæ dist. ℥j. M. Fiat lotio bis terve indies assidue utenda.—*Prov. Med. and Surg. Journ.* Oct. 15, 1851.

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12. *On the Use of Manganese as an Adjuvant to Iron.*—M. PÉTREQUIN, in an article in a recent No. of the *Bulletin de Thérapeutique*, quotes various authors to prove that manganese is a normal constitutent of animal and vegetable tissues: and believes that wherever iron is present in appreciable quantity, manganese coexists with it. Hence iron alone will not always succeed in blood-diseases. M. Pétrequin has observed many cases of chlorosis, which have resisted iron as obstinately as anæmia connected with cancer or organic degeneration. Other cases, again, after deriving a certain amount of benefit from iron, remain stationary. Others, again, appear cured by iron, but the cure is not permanent. The remedy required in these cases, M. Pétrequin finds to be manganese. He does not give it or iron alone, but combines them.

It is especially in *diseases of the blood* that ferro-manganic medicines are useful. They have a special action on the vascular apparatus, on the formation

of the blood, and on the circulating fluid itself. They do not act merely as tonics or astringents; but are regenerators of the blood. They have succeeded admirably in anæmia following hemorrhage, operations, polypi, metrorrhagia, etc.; also in the chlorosis attending puberty, which is a more common disease than is generally supposed, and occurs even in males. M. Pétrequin has also frequently found the combinations of iron with manganese of benefit in the diseases of women at the critical period. He has often seen, in these subjects, *metrorrhagia*, accompanied with an aspect of the surface which would lead to the suspicion of organic uterine disease: the hemorrhage, however, was but a complication, and the patients, apparently in a hopeless state, have recovered under the use of ferro-manganic preparations, conjoined with tonics and ergotine.

In *amenorrhœa* and *dysmenorrhœa*, the patients often imagine that they require to be bled; but care must generally be taken not to comply with this request. M. Pétrequin has more than once seen cases of amenorrhœa with severe chlorosis, in which it has not been desirable to hasten the appearance of the catamenia—the consequent loss of blood aggravating the disease. The general state of health must here be carefully attended to. Œdema of the lower limbs sometimes occurs in these cases; but it is a less severe complication than when it attends metrorrhagia. It often disappears, as the patient recovers, under the use of iron and manganese.

These medicines are no less efficacious in the treatment of *anæmia* resulting from prolonged intermittent fevers, prolonged suppuration, strumous, syphilitic, or cancerous affections, phthisis, etc. Pills and the syrup of the iodide of manganese and iron are preferable in these cases.

In all these cases, the ferro-manganic preparations do not merely act on the stomach and nervous system, but they are absorbed, and assist in the formation of hæmatosine and new blood-globules, so as to restore the blood to its normal condition. Their effect in this way is greater than that of iron alone.

In the *functional affections of the heart* connected with chlorosis and anæmia, and which must not be mistaken for organic disease, a combination of iron and manganese with digitalis and other moderators of the heart's action is advantageous. The same remark applies to the *functional disorders of the lungs*, attending the same constitutional states.

Disordered states of the nervous system are intimately connected with those of the blood. M. Pétrequin has found that the ferro-manganic preparations succeed well in these, even though uncomplicated with chlorosis. He, as well as M. Gubian, has observed that iron is here better tolerated when combined with manganese. He has also seen benefit from the use of iron with manganese in many cases of *dyspepsia*, *gastralgia*, and *gastro-enteralgia*. Nervous affections of the digestive organs are often the result of chlorosis: and, where stomachics and cinchona have failed, iron has often been found (especially the carbonate, by some English physicians) to be of service. Gastrodynia complicating chlorosis has often yielded to the use of ferro-manganiferous water, and to pills of carbonate of iron and manganese.

In *nervous affections connected with exhaustion* from venereal excesses, onanism, rapid growth, etc., as well as in leucorrhœa, diabetes, etc., M. Pétrequin has a high opinion of these medicines. He is continuing his researches on their action in certain cases of sterility from asthenia, and in some hyposthenic affections of the scalp, such as early baldness, alopecia, etc.

M. Pétrequin has confined his observations to a limited number of the ferro-manganic preparations; and has made many observations before publishing the formulæ which he finds most useful. Having found, even at an early period, that the medicines were liable to adulteration, he has availed himself of the assistance of competent pharmaceutists. Since the publication of his first memoir, in 1849, these medicines have been extensively used in the south of France and in foreign countries.

The formulæ are few, and correspond to the preparations of iron generally used in France. They are: 1. *Pills* of carbonate of iron and manganese, or of iodide; 2. *Lozenges* of lactate of iron and manganese; 3. *Syrups* of lactate, or

of iodide of iron and manganese; 4. Ferro-manganic *chocolate;* 5. *Effervescing solution* of iron and manganese.

It has been observed that manganese not only preserves water, but purifies that which has undergone change (Martin-Lauzer). Ferro-manganic waters (of which there are many in France and other parts of the continent) can be preserved and carried to a distance;—which cannot generally be done with simple ferruginous waters.

M. Pétrequin commences by giving the powder of iron and manganese, with some vinous drink; he then administers two pills daily, one before breakfast and one before dinner, replacing them soon by the lozenges. The syrups and chocolate complete the treatment. He gives the medicines at meal-time. The syrup he gives before breakfast, in doses of a teaspoonful; and he finds it useful to administer directly after it some infusion of centaury, or of chamomile flowers and orange.

Large doses are unnecessary and useless; for they are liable to produce irritation of the stomach and exhaustion of the nervous system; and the reparation of the blood is slow and progressive, and cannot, even were it desirable, be effected rapidly. Besides, the iron and manganese are not absorbed in any greater quantity, if large doses are given.—*London Journ. Med.* Aug. 1852.

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13. *Preparations of Manganese and Iron.*—M. Burin-Dubuisson of Lyons, who prepared most of the ferro-manganic combinations used by M. Pétrequin, has published an interesting *brochure*, in which he gives the necessary details relating to the subject. The following formulæ are extracted from it.

Powder for Effervescing Solution of Manganese and Iron. Take of coarsely powdered bicarbonate of soda 20 parts; tartaric acid 25 parts; powdered sugar 53 parts; finely powdered sulphate of iron 1½ part; finely powdered sulphate of manganese, ¾ part: mix carefully, and keep in well stopped bottles. A teaspoonful is mixed with each glass of wine and water drunk during meal-time.

Pills of Carbonate of Iron and Manganese. Take of pure crystallized sulphate of iron 75 parts; pure crystallized sulphate of manganese 25 parts; crystallized carbonate of soda 120 parts; honey 60 parts; water a sufficient quantity. Pills of 20 centigrammes (3 grains) are made; they keep easily, without becoming oxidized, in well-closed vessels. From two to four are given daily.

Ferro-manganic Chocolate. One part of carbonate of iron and manganese is first mixed with four of sugar, and divided into large lozenges; of these, 100 parts (grammes) are mixed with 500 of chocolate paste, in the preparation of which 100 parts of sugar have been left out. This will make 800 lozenges, each of which contains about 3 centigrammes (nearly half a grain) of carbonate of iron and manganese. The chocolate decomposes the hydrated carbonate of manganese and iron of the saccharate into hydrated sesquioxide of iron and manganese; there is no metallic taste.

Syrup of Lactate of Iron and Manganese. Take of lactate of iron and manganese 4 parts; powdered sugar 16 parts; rub together, and add of distilled water 200 parts; dissolve rapidly, and pour into a matras over a water-bath, containing 384 parts of broken sugar: filter the solution. This syrup contains about 15 parts of lactate of iron and 5 of lactate of manganese in 3000 parts. One or two spoonfuls are taken daily.

Lozenges of Lactate of Iron and Manganese are made by adding 20 parts of the lactate to 400 of fine sugar, with a sufficient quantity of water. The mass will make 840 lozenges; of which six or eight are taken daily.

Syrup of Iodide of Iron and Manganese. M. Burin-Dubuisson forms a solution of iodide of iron and manganese, in the proportion of one part by weight to two of water: the proportion of the salts is about three of iodide of iron to one of iodide of manganese. Six parts of this are mixed with 294 of simple syrup; of this, M. Pétrequin gives one or two spoonfuls daily.

Pills of Iodide of Iron and Manganese. Take of the officinal solution prepared by M. Burin-Dubuisson, 16 parts (grammes); honey 5 parts; some absorbent powder 9½ parts. Divide into 100 pills. The honey and the solution are first

mixed, and evaporated at first rapidly, then more slowly, to 10 parts. Then add the powder, and divide the mass into four parts, which must be rolled in powder of iron reduced by hydrogen; each of these must then be divided on an iron plate into 25 pills, and again rolled in the iron powder. Finally, they are covered with a layer of tolu, according to M. Blancard's process.

All these preparations must be made very carefully. M. Burin-Dubuisson has ascertained that the commercial salts of manganese frequently contain copper, and even arsenic; he hence insists on the necessity of calcining the sulphate of manganese, twice, or more frequently, at a dark red heat, and of carefully testing the solution.—*Ibid.*, from *Bul. de Thérap.* t. xlii.

14. *Absorption of Iodine from Ulcerated and Serous Surfaces.*—M. Bonnet has arrived at the following conclusions from his investigations on the absorption of iodine:—

1. Iodine, when applied to ulcers, or injected into the cavities of abscesses or serous membranes, is absorbed, and is found in the urine and saliva. 2. This absorption and excretion may continue for several weeks without any affection of the general health. 3. This absorption and elimination produce a marked effect upon the system, and may effect remarkable benefit in constitutional scrofula, provided that the elimination of iodine by the urine, as shown by the deep blue colour produced with starch, be kept up for six weeks or two months. 4. Blistered and cauterized surfaces absorb iodine readily; and after daily dressing them, iodine may be found in the urine and saliva. 5. By the application of iodine to blistered surfaces at a distance from the eyes, scrofulous ophthalmia may be cured without internal remedies or local applications. Profound constitutional effects will be produced by applying iodine for several months after the moxa or cautery, so as the urine may always give a deep blue tint with starch and chlorine. 6. The only preparations of iodine which are constantly absorbed from ulcerated or blistered surfaces are the vapour and the ointment, made with thirty parts of lard, one of iodine, and two of iodide of potassium. This is especially preferable to the tincture of iodine. 7. The iodine may be detected in the urine and saliva by means of starch and hypochloride of soda; and the quantity may be judged of approximately by the intensity and persistence of the blue colour. 8. By the endermic method, not only the preparations of iodine, but also of hydrochlorate of ammonia, nitrate of potash, conium, etc., may be applied with more rapid and certain effect, than when they are applied to the sound skin.—*Lond. Journ. Med.* July, 1852, from *Gaz. Méd. de Paris.*

15. *Effects of the Prolonged and Excessive Use of Iodine.*—Mr. Langston Parker states (*Provincial Med. and Surg. Journ.* Feb. 4, 1852) that he has seen numerous instances of what he considers the prolonged and excessive use of the preparations of iodine in constitutional syphilis, principally the iodides of potass and iron. The following are the cases which he recollects as most remarkable:—

"A surgeon, aged forty-seven, consulted me in the early part of this year for certain symptoms of an old venereal taint. He had taken, he informed me, ten grains of the iodide of potass twice or thrice a day, for ten years. There was no wasting of the testes. He had sarcocele, clearly venereal, with a small hydrocele on one side; the testis on the other was healthy, but there was hypertrophy of the tongue, which was tender, and covered with lobes or nodes, and fissured by deep cracks.

"I have seen this condition of the tongue so frequently in persons who have taken the iodide of potass for long periods, that I must consider it a pure chronic glossitis, produced by the continued use of this salt.

"A German gentleman, who had suffered from secondary syphilis for five years, and who had been treated by Ricord, Chelius, and others, was sent to me for my opinion as to the nature of the disease in his tongue. He had taken large quantities of iodide of potass for four years; 'in fact (said he), I have taken so much iodine that my perspiration turns all my linen brown.' The

tongue was tender, swollen, lobulated, and fissured by deep irregular cracks. The testes were of good size, and appeared perfectly healthy.

"In a third case, the patient had taken five grains of the iodide of potassium three times a day, for the greater part of three years.

"When this patient consulted me, he was emaciated and weak, and his appetite was totally gone. He at that time presented no symptoms of venereal taint, and attributed the whole of the indisposition under which he laboured to the prolonged use of the iodide. The testicles were healthy, and of full size.

"A gentleman who had suffered from a constitutional venereal taint for thirteen years, whose disease had resisted the usual methods of treatment, or returned when they were discontinued, was sent to me from town, to try my method of treatment by 'moist mercurial vapour.' He had taken large quantities of the iodide of potass for long periods. The tongue presented the appearance already described; it was in places hard and lobulated, in others fissured by deep cracks. The left testis had almost entirely disappeared; it was reduced to the size of a pea. The right was of full size, and healthy. Virility was not impaired.

"I have selected these four cases from amongst a mass of others, to furnish a reply to Mr. Gall's question; they are remarkable, from the large quantities of the iodide of potass which had been taken, and the length of time it had been continued. It is singular that three out of the four cases should present that peculiar condition of tongue, almost cancerous in its appearance, which I believe due to the use of the iodide. I never saw such a condition of tongue, however long a constitutional taint had been present (and I have treated cases of twenty-nine years' standing), unless the iodide of potass had been taken for a long period. The fourth is the only case I have seen where absorption of the testis appeared directly due to the use of the above-named salt."

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16. *Guaraná.*—Communicated by D. Ritchie, Surgeon, R. N. A medicinal substance named Guaraná was presented to me about two years ago by a Brazilian. The virtues which he asserted that it possessed induced me to employ it as a remedy in several troublesome and obstinate cases of disease. The consequent benefit was so decided that I was convinced of the great value it possessed as a remedial agent. This conviction, with the belief that it was still unknown, impelled me to bring the subject under the notice of the *profession* in this country. A short account of it was therefore transmitted to the editor of the *Edinburgh Monthly Medical Journal*, who forthwith submitted it to Professor Christison. To the kindness and extensive acquirements of this gentleman I am indebted for the information that the subject had already engaged the attention of the brothers Martius in Germany, and several French writers. It was a matter of satisfaction to me to find that the opinions I had expressed regarding the great prospective importance of this substance were fully borne out by all those who have diligently examined it.

As a knowledge of the properties and uses of guaraná appears to be still little diffused in this country, I shall consider that I am performing an acceptable service to the medical profession in placing before it an abstract of the more important facts that are known regarding this substance. Public attention was first directed to it by M. Gassicourt in 1817 (*Journal de Pharmac.*, tom. iii. p. 259); but the merit of discovering the source whence it is derived, and of furnishing a more complete description of it, belongs to Von Martius, in the year 1826 (Reise, vol. ii. p. 1061, *et seq.*).

The term Guaraná is derived from the name of a tribe of Indians, who are dispersed between the rivers Parama and Uruguay, by whom it is very commonly used as a condiment or medicine. It is, however, more extensively prepared for commercial purposes by the Mauhés, an Indian tribe in the province of Para and of Tapajoz, on the banks of the rivers Mauhé, Maragnon, and Tapajoz. It is, according to Martius, prepared from the seeds of the Paullinia sorbilis, a species belonging to the natural family Sapindaceæ. The characters of the species are: Glabra, caule erecto angulato, foliis pinnatis bijugis, foliolis oblongis, remote sinuato-obtuse-dentatis, lateralibus basi rotundatis, extimo basi cuneato, petiolo nudo angulato, racemis pubescentibus erectis, capsulis

pyriformibus apteris rostratis, valvulis intus villosis. The seeds, which ripen in the months of October and November, are collected, taken out of their capsules, and exposed to the sun, so as to dry the arillus in which they are enveloped, that it may be more readily rubbed off by the fingers. They are now thrown upon a stone, or into a stone mortar, and reduced to powder, to which a little water is added, or which is exposed to the night dew, and then formed by kneading into a dough. In this condition, it is mixed with a few of the seeds entire or contused, and divided into masses, weighing each about a pound, which are rolled into cylindrical or spherical forms. These are dried by the sun or by the fire, and become so hard as to be broken with difficulty. Their surface is uneven, brown. or sometimes black, from the smoke to which they have been subjected; their fractured surface is conchoidal, unequal, and resinoid; colour reddish-brown, resembling chocolate. This is the guaraná, and in this condition, or reduced to powder, it is kept for use, or carried to market. The Museum of the Edinburgh College of Physicians contains a specimen of it in each of these forms. As it is liable to be adulterated with cocoa or mandiocca flour, it is of importance to be aware that the genuine article is distinguished by its greater hardness and density, and in that, when powdered, it does not assume a white colour, but a grayish-red tint.

A chemical analysis of this substance was first made by Theodore Martius, in 1826 (*Buchner's Repert. de Pharm.*, xxxi. 1829, p. 370). He found it to consist of a matter (tannin?) which iron precipitated green, resin, a fat green oil, gum, starch, vegetable fibre, and a white, bitter crystalline product, to which the efficacy of the medicine was principally owing, and which he named Guaranine. This he believed to be distinct from, but allied to, theine and caffeine, and to possess the following elementary constituents: C_8, H_{10}, O_2, N_4.

Another very careful analysis of guaraná was made in the year 1840 by MM. Berthemot and Dechastélus (*Journal de Pharmacie*, tom. xxvi. p. 518, *et seq.*), which varies in some degree from the preceding. They found the matter, which was considered to be resin by Martius, a combination of tannin with guaranine, existing in a form insoluble in water or ether. They also determined the perfect identity of the crystalline matter with caffeine. It is found to exist in a much larger proportion in the fruits of the Paullinia than in any of the plants from which it has hitherto been extracted. Alcohol is the only agent which completely removes it from the guaraná. To this solution the addition of lime or hydrated oxide of lead gives, on the one hand, the insoluble tannates, and on the other the crystalline matter.

The medicinal virtues of this substance have been attentively examined by Theodore Martius (Op. cit.), and more particularly by Dr. Gavrelle (sur une nouvelle substance médicinale, etc.: Paris, 1840), who employed it very often while in Brazil, as physician to Don Pedro, and afterwards in France. By both it is considered a very valuable remedy, and an important addition to the Materia Medica. By the vulgar it is held to be stomachic, antifebrile, and aphrodisiac; is used in dysentery, diarrhœa, retention of urine, and various other affections. It stimulates, and at the same time soothes, the gastric system of nerves. It reduces the excited sensibility of the cœliac plexus, thereby diminishing febrile action, and strengthening the stomach and intestines, particularly restraining excessive mucous discharges, increasing the action of the heart and arteries, and promoting diaphoresis. It is therefore indicated as a valuable remedy in fevers, or reduced vital power resulting from cold or prolonged wetness, grief, too great muscular exertion, depression of spirits, long watching, and also in colic, flatulence, anorexia, nervous hemicrania, or in a dry condition of the skin. It is contraindicated in a plethoric or loaded condition of the abdominal viscera, and when there exists determination of blood to the head. It is said to increase the venereal appetite, but to diminish the fecundating power.

In cases where irritation of the urethra or urinary bladder succeeds venereal or attends organic disease, it exerts a most salutary effect in soothing the irritability of the mucous membrane, relieving the nervous prostration which accompanies these affections, and exalting vital power. Unlike the disagreeable remedies which are generally, and often without success, employed in these

affections, it is taken with pleasure, and with an amount of success which, as far as my experience extends, is universal.

If we examine guaraná according to its chemical characters, it must be regarded as a most valuable substance, from its possessing in so great a proportion that important nitrogenous principle guaranine. This, if not identical with caffeine, is at least analogous to it, and to theine, and theobromine—all important elements of food and grateful stimulants. From its chemical constitution, then, we may predict with great certainty its physiological action as being powerfully tonic; but, in the combination in which it is found, experience indicates that it possesses conjoined more valuable properties than belong to the simple tonics. Its power of correcting generally the discharges, and restoring the normal vitality of the mucous membranes, must be viewed as one of these.

Guaraná, in the state of powder, is exhibited in doses of ʒj, three or four times daily, mixed with water and sugar, or with syrup and mucilage, conjoined with an aromatic, as cinnamon, vanilla, or chocolate. A convenient form is that of extract, obtained by treating the guaraná with alcohol, and evaporating to the consistence of pills. This may be exhibited in the form of solution or pills. The Brazilians, however, use the powder with sugar and water alone, and consider this draught grateful and refreshing.—*Monthly Journ. Med. Sci.*, May, 1852.

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17. *Neat's-foot Oil as an Occasional Substitute for Cod-liver Oil.*—Dr. C. R. Hall states (*London Journ. of Med.*, July, 1852) that, in some cases where the cod-liver oil disagrees with the patient, he has found the neat's-foot oil to agree. "Taken," he says, "in the same way, in the same dose, and with the same precautions as the other, it does not remind the patient of its presence after being swallowed. At first, it commonly acts very gently on the bowels, evincing this rather by softening the evacuations and maintaining their habitual regularity, than by increasing their frequency. In some cases of chronic diarrhœa, when the oil has been given in conjunction with tannin, or with nitric acid and opium, the bowels have become less irritable under its exhibition. In other cases of diarrhœa, the oil has appeared slightly to increase the disturbance. Pains in the chest have improved, the subcrepitant rhonchus at the apex has cleared up, under such circumstances as to give me the impression that the oil had ministered to the result, whilst the general improvement in condition has equalled what we customarily see from the cod-liver oil when it agrees.

"The neat's-foot oil has also proved of service in simple bronchitis, not connected with tubercle, after the acute stage has passed; in overcoming habitual constipation; in allaying the irritation of hemorrhoids; and, in general terms, in improving the condition of children who, without manifest ailment, remain too thin, notwithstanding judicious management of their regimen.

"In regard to its aperient effect, however, the neat's-foot oil is somewhat uncertain. Usually, as already stated, it at first produces very slight action of the bowels, and then maintains them in a state of regularity. But sometimes it fails to do this, and aperients are required to be superadded. On the other hand, in young children, and in some adults, whose bowels were irritable, a relaxed state has ensued after the oil has been taken alone for a few days. In no instance has it appeared to irritate the mucous membrane, or to produce griping. If there is no diarrhœa, the oil may be expected to promote regularity of the bowels, and nothing more. If there is diarrhœa, or the tendency to it, the oil need not on that account be avoided. The conjoint administration of any suitable astringent will enable the oil to be taken with advantage in the majority of cases.

"The cod-liver oil, in a few instances, produces an herpetic eruption about the mouth, very trifling in extent, and a sore state of the tongue. So far I have not observed such effects from the neat's-foot oil. But as they usually occur in summer, I have not yet had a sufficient opportunity of judging. Neither is my experience at present at all sufficient to allow me to draw any comparison between the cod-liver and the neat's-foot oils, in point of ultimate efficacy, where both agree with the patient. I would by no means therefore advise the sub-

stitution of the latter, where the former has been habitually taken without inconvenience. There is one exception; when the bowels have been habitually constipated, I have replaced the cod-liver oil by the other with advantage.

"As we should anticipate, there are certain of the more acute cases of phthisis in which the neat's-foot oil (like the cod-liver oil, when it can be taken), proves of no avail in checking the softening of the lung or its attendant emaciation.

"The oil of the skate has been supposed with some patients to agree better than the cod-liver oil. I have tried it only twice; in neither case did it agree. The principal claim of neat's-foot oil to attention, therefore, rests upon this, that it will frequently agree with the digestive organs, where the fish oils will not.

"There is at present some difficulty in obtaining the genuine neat's-foot oil. From the butchers, it is obtained too much mixed with impurities; from many druggists, mixed with so called nut oil; from some, too refined, having had almost all its stearine removed. In this so styled *very pure* form, I find it disagrees with the stomach. In this, as in the cod-liver oil, and, probably, all other animal oils, a large proportion of stearine promotes the digestibility of the oil. The suitable kind of neat's-foot oil is that which is merely freed from foreign particles, yellowish brown in colour, and opaque and thick with stearine, like honey not over clear."

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

18. *General Treatment of Continued Fever.*—Professor Bennett, in a clinical lecture (*Monthly Journ. Med. Sci.*, June, 1852), says: "That the general treatment of continued fever which he has found most useful consists, during the stage of excitement, of giving saline antimonials, administering slight laxatives if occasion require them, and ordering the head to be shaved and cold applied. Wine and stimulants are required at a later period when the pulse becomes weak. In prolonged cases, the effect of pressure on the skin from decubitus must be carefully guarded against, whilst the different complications which arise will require careful management.

Salines and Laxatives.—At an early period of the disease, when the skin is hot and the pulse rapid and strong, the saline mixture generally ordered is the following: ℞. Sol. tart. antim. ℥ss; sol. ammon. acet. ℥ij; aquæ ℥vss; M. ft. mist., of which a tablespoonful is to be taken every four hours. Should a laxative or purgative be required, castor-oil is the one usually employed. Water or thin lemonade may be taken *ad libitum*.

Cold to the Head.—The oppressive headache of fever is greatly alleviated by cold applications to the head. Indeed, none but those who have experienced it can understand the feeling of relief and grateful sensation of ease which is in this way produced. The best method of applying cold I have found to be as follows: A wash-hand basin should be placed under the ear on one side, and the head allowed to fall over the vessel by bending the neck over its edge. Then from a ewer a stream of cold water should be poured gently over the occiput, and so directed that it may be collected in the basin, care being taken not to wet the dress or bedclothes. It should be continued as long as it is agreeable to the patient, and repeated frequently. In hospitals, and more especially in fever-wards, this method requires too much attendance. You will have observed, indeed, that I seldom ordered cold to the head, experience having taught me that it was more frequently converted into warmth to the head. For, notwithstanding every injunction to the contrary, all that is done in these cases is to moisten a piece of double rag or lint in cold water, and lay it upon the warm head of the patient. In a few seconds it is converted into a warm and steaming fomentation, and too frequently allowed to remain in this condi-

tion for hours. Hence, unless cold can be applied properly (and in large hospitals that can scarcely be expected without procuring a nurse for every two or three patients), it is better not to order it at all. It has occurred to me, however, that a water-pipe might be conveyed round the walls of fever-wards, with a vulcanized india-rubber tube and stopcock attached, so that with a little contrivance the patients might procure a flow of cold water and regulate it for themselves. I am satisfied that much relief would be in this way obtained.

To secure the application of cold efficiently, it is necessary that the head be shaved. In all severe cases this is indispensable. Such practice, however, is often stoutly opposed by the friends of young women, who are unwilling that they should lose a handsome growth of hair. I have occasionally compromised the matter by allowing the long hair to float in cold water, and act by capillary attraction on the scalp, so as to keep up a refreshing feeling of coolness.

Wine and Stimulants.—When, after being rapid and strong, the pulse falters, becomes soft and weak, very often without losing its frequency, it will become necessary to administer wine or other stimulants. The quantity of wine usually given is from three to six ounces a day; but in some cases marked by unusual depression, or when the individual has been previously accustomed to alcoholic drinks, a larger quantity, or, instead, from one to four ounces of spirits may be required. Nothing is more difficult than to lay down rules as to the extent to which stimulants ought to be given in certain cases, or as to the period when they should be administered. The pulse, strength of constitution, previous habits of the patient, but, above all, the type of the prevailing epidemic, must be your chief guides. Nothing, perhaps, is more indicative of experience and practical tact in the treatment of fever than the judicious use of stimulants in this disease, and certainly there is no other method of acquiring the necessary knowledge than that of carefully watching their effects in a large number of patients. Among all the agents at your command, there are none which will enable you to conduct a case of fever to a favourable termination more successfully than stimulants, when properly managed. Indeed, it is easy to conceive that in a disease where loss of appetite, and abstinence from food, constitute essential phenomena, a period must arrive, sooner or later, when artificial support is absolutely required. You should be careful, however, not to prolong their use more than is necessary. Very singular anecdotes still linger about the clerks' rooms of this infirmary of instances where whole bottles of whisky were consumed daily by fever patients; and where, notwithstanding their recovery, owing to some mistake in the order-book, the whisky was still supplied, and disappeared with surprising regularity.

Regulation of the Diet.—During the early period of fever, the patient generally loathes all kind of food. Care should be taken, however, that, after a few days have elapsed, slight nourishment should be taken in the form of drink, and diluted milk, toast and water, thin panada or similar fluids given, with a little toast or biscuit. Should collapse come on, pains should be taken that, together with the stimulants, chicken broth or good strong beef-tea should be administered. I am inclined to think that the danger from fever is not from over, but from under, nourishment, which, by reducing the strength, leaves the patient less capable of struggling with the subsequent collapse. I have especially noticed, with regard to relapsing fever, that those who have fed well in the interval have been less affected by the re-accession. The body is also drained of its saline constituents, whilst such as enter with the food are cut off; hence I have found it useful to add a large amount of common salt to the beef-tea, which also renders it more sapid and agreeable to the patient, and serves to clear away the accumulation of fur and sordes that gather about the mouth. On the other hand, when convalescence comes on, we should take care not to indulge the appetite too much.

With regard to the complications of fever, I have nothing further to say than that they must be treated according to general principles, always keeping in remembrance that active depleting means are never useful, and seldom fail, by diminishing the vital powers, to augment the collapse and increase the danger."

19. *Treatment of Continued Fever by Quinine.*—Dr. DUNDAS, in a paper published in the *Medical Times* for October 4, 1851, extols the efficacy of large doses of quinine (ten or twelve grains, repeated at intervals not exceeding two hours), in the treatment of continued fever. "Three or four of these doses will be," he says, "in general, sufficient to exert the specific influence of the medicine, which is displayed by dizziness of the head, tinnitus aurium, or in the rapid subsidence of all the urgent symptoms. In the great majority of cases of uncomplicated typhus, taken at the commencement, complete and rapid cures may be effected by this treatment."

In a subsequent paper (*Lond. Journ. Med.* Dec. 1851), Dr. D. has made some further remarks on the subject, and avers "that quinine will *generally* cure every case of typhus fever curable by medicine, including a large number of those who would sink under any other form of treatment;" and he adduces the testimony of several practitioners, who have tried the practice, in its favour.

Dr. Dundas, it should be remarked, considers the remittent and intermittent fevers of the tropics, and typhoid and typhus fevers as identical.

The boldness with which Dr. D. vaunted the efficacy of quinine in continued fevers has induced several practitioners to try it, and we do not find that their results, generally, to confirm the promises held out.

Professor BENNETT, who tried it in the Royal Infirmary, Edinburgh, remarks, in a clinical lecture (*Monthly Journ. Med. Sci.*, June, 1852): "With regard to cutting short continued fever by quinine, as contended for by Dr. Dundas, I regret to say that the trial you have seen made of it has entirely failed. In none of the seven cases in which it was given, notwithstanding the physiological action of the drug was well marked, did it in any way cut short the disease, or produce on its progress, so far as I could ascertain, any amelioration whatever. On the other hand, it may be argued that in one case (Case IX.), it was injurious, by increasing the cerebral complication. Dr. Christison has also tried it in one case, and Dr. Robertson in eight cases, also with a want of success. Thus, in sixteen cases it has been carefully and energetically tried, with uniform failure in all."

At a meeting of the Edinburgh Medico-Chirurgical Society, Dr. CHRISTISON said that, on lately taking his turn of duty as clinical professor, although he understood from Dr. Bennett that Dr. Dundas's treatment had been tried by him in several cases without success, he resolved to make trial of it also in conformity with a promise made to Dr. Dundas. The first suitable case for the experiment was that of a girl of fourteen, who, while a patient in the clinical ward, had caught fever apparently from having been allowed by the nurse to be in constant close communication with another girl convalescing from simple spotted typhus. An eruption, persistent on pressure, appeared on the fifth day; and the other symptoms of simple typhus were characteristically exhibited. On that day five eight-grain doses of sulphate of quina were given every two hours; and next day these doses were repeated. The only discoverable effect was some increase of a habitual deafness. No amelioration whatever ensued, and no reduction of the pulse. Twenty-four hours after the quina was abandoned a temporary amendment took place, as is not unfrequently observed after the close of the first week. But at the same time diarrhœa set in; the eruption disappeared on pressure; the other symptoms also put on the character of enteric typhus; and at the present moment the patient is moribund, in the fifth week of fever. [She died in two days more. The feces had become solid for three days before death. The intestines did not present any appearance of *dothinenteritis*.]

This case was no great encouragement to persevere. He was at a loss to account for the success of Dr. Dundas and others, and the total failure of the remedy here. Dr. Bennett had mentioned one source of fallacy. He might mention another. In the spring and autumn of last year, most of the cases of fever in the clinical wards put on the characters of simple typhus, sometimes in great intensity, and terminated by a gentle diaphoretic crisis, beginning on the eleventh, and ending on the fourteenth day. One of the worst cases he ever saw put on that form, and so ended favourably in the most unpromising circumstances. An epidemic, in which such cases occurred, would be a great

source of fallacy in the course of trials like those made by Dr. Dundas and others.

Dr. Robertson stated that he had, since the 20th of January, been making a series of observations on the quinine treatment. He had treated in a male fever ward of the infirmary thirty-four cases of fever, whereof twenty-one were unmistakable examples of typhus. To eight of the twenty-one, quinine in ten-grain doses was given, in exact accordance with Dr. Dundas's directions. The treatment was commenced at all periods from the fifth or sixth to the tenth day of the disease. The quantity used in each case varied from 40 to 130 grains. It produced no appreciable good effect—did not cut short the fever in a single case—and, while it generally seemed to lower the pulse, sometimes caused cerebral excitement, followed by coma of a very alarming character. Dr. Robertson was convinced that, in cases of the Edinburgh typhus at least, the practice was useless, if not dangerous. True, the eight cases all recovered; but the epidemic at present was a mild one—for of thirty-four cases treated in the same ward during the last three months, one only had proved fatal.

Dr. Maclagan read an extract of a letter from his son, Dr. Philip Maclagan, surgeon of the 20th Regiment at Montreal, of date 13th December last, to the following effect: "We have a good deal of common fever. I have been trying to cure some of them by inducing *cinchonism*, certainly with very marked success, but the number is too small as yet to give any opinion on the system. But in cases apparently *parallel*, and lying side by side, the treatment by large repeated doses of quinine produced a rapid change, while under our ordinary *expectant* treatment the cases ran on in the common way."

The President remarked that he had not had any opportunity of testing the value of quinine as a febrifuge in typhus; but he had on many occasions witnessed its beneficial effects in the ordinary remittent fever of children. In such cases he had administered quinine early in the disease, when the tongue was loaded, the skin hot, and the pulse frequent; and had observed that, in such circumstances, without the aid of purgatives, or other antiphlogistics, cases which would have run the course of *ten* or more days had been cut short in *four* or *five*.

Dr. Christison and Dr. Maclagan also attested the utility of quinine in this disease; but Dr. Maclagan always employed purgatives in addition.

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20. *Treatment of Rheumatic Pericarditis.* By J. Risdon Bennett, M. D.—The following is an abstract of a paper read at the Medical Society of London, upon a subject somewhat disputed at the present time. The author observed, that whatever opinion may be entertained as to the precise nature of acute rheumatism, it has been long and generally admitted that the articular inflammation has peculiarities which distinguish it from ordinary inflammation; and this conviction has very generally guided our treatment of the local affections, apart from other and more important considerations. When, however, a case of acute rheumatism has become complicated with local inflammation of internal organs, it has usually been the practice to treat these local internal inflammations much in the same way as if they had not occurred in connection with rheumatism. If, however, we look on them, not as exceptional or accidental complications, but as having a common origin with the external inflammation, it would be natural that our treatment should be guided by the same considerations which influence us in the local treatment of the arthritic affections. If the affections of the joints be but the local manifestations of a general disease of the system, or, in the phraseology of the day, of a blood disease, there is much reason for viewing the pericarditis and pleuritis, which are so apt to supervene, in the same light. And thus if, in reference to the relief of the articular pain, and tenderness, and swelling, we are guided by general considerations, and trust rather to constitutional remedies than to local measures, ought not the same considerations to guide us in the treatment of the local symptoms occurring in conjunction with the internal inflammations? It is, of course, readily granted that the vital importance of the heart, or even the pleura, is far greater than that of the knee or elbow-joint. There is an urgent necessity for speedy relief in the one case, which does not exist in the other. We

may be fully authorized in the use of means for the relief of the one, which, from general considerations, we may not be warranted in employing in the other. Still, if our general pathological views be correct, they should undoubtedly influence us most materially in our attempts to relieve even the most urgent symptoms connected with a vital organ. And, *à fortiori*, we should not be too hasty, in the slighter forms of these internal affections, in having recourse to remedies of questionable propriety as regards the general treatment of the disease. Dr. Bennett stated that it was not his purpose to offer any evidence in support of the view which considers acute rheumatism as a blood-disease, nor to attempt to define in what respects rheumatic differs from other forms of inflammation; but submitted that the commonly occurring internal inflammations are as much a part of acute rheumatism as the arthritis, and that the one as much as the other participates in the peculiarities, whatever they may be, of rheumatic inflammation. The profession, he said, was much indebted to Dr. John Taylor for his valuable investigations on the subject of pericarditis. His researches have fully shown the important relation that subsists between pericarditis and other blood diseases than rheumatism, and more especially Bright's disease. Putting rheumatism out of consideration, it was, he observed, a remarkable and most important consideration that pericarditis is a rare affection, except in connection with some blood disease; and his own observation, and he believed that of the profession at large, fully confirmed this important pathological fact, which, the more it was considered, the more would it be found to be pregnant with important practical results. It had, however, long been doubted whether the ordinary treatment of pericarditis was worthy of the confidence it generally received; and with reference to a leading part of the treatment, it is no new thing with the disciples of that profound pathologist and sagacious physician, Professor Alison, to question the efficacy of mercury in overcoming pericarditis. Towards the solution of this question, Dr. Taylor has afforded us much valuable information. It must, however, still be considered *sub judice*. But for its satisfactory determination it was important that it should not be mixed up with the questions of the value of mercury in the treatment either of inflammation in general or even of other serous inflammations. Here, as in many other instances, it is probable we have been misled by a general term, and by referring to the class Inflammation what may be only true of some particular form. "At all events," said Dr. Bennett, "I am especially anxious to guard myself from being supposed to cast any doubt, or to offer any opinion, on the value of mercury in any other form of inflammation than that which is the subject of immediate consideration." For the present he begged to be allowed to consider simply the subject of rheumatic pericarditis, which he was willing to call by any other name, and offered the brief cases which he read as a small contribution towards the determination of a very important practical question, and as a peg on which the Society might hang not merely a discussion but additional materials. He did not intend, however, to limit the consideration of the Society to the utility of *mercury*, but to the treatment of *rheumatic pericarditis*, whether by mercury, depletion, or any other means.

Dr. Bennett then proceeded to give the histories of four cases of rheumatic pericarditis treated in the female ward of St. Thomas's Hospital, under his care. Lemon-juice was the constitutional remedy which had been relied on in all the cases, and with this he had for some time past treated almost all his hospital cases. In the first case admitted Nov. 6, and discharged Dec. 15, symptoms of disturbance of the nervous system, of the character of chorea, were the most prominent, and these came on with a friction-sound, and other signs of serous inflammation, probably involving both the pleura and pericardium. A purgative mixture (into which, however, colchicum entered), to keep the bowels open, a sedative at night, and counter-irritation, comprised the treatment till the occurrence of symptoms indicative of increase of thoracic inflammation and nervous disturbance. For these symptoms ammonia and camphor mixture were had recourse to—the application of ten leeches once—cataplasms, and subsequently counter-irritation again. Neither general nor large local depletion was had recourse to, nor mercurialization. In answer to the objection

which some might urge, that this was a slight case of pericarditis, and that many such will do well without any special treatment, Dr. Bennett admitted that the slighter pains of pericarditis do not require nor justify active interference. But it would not be speaking correctly to call this a trifling case. Both local and general symptoms presented a formidable aspect of things, which, in the eyes of many, would have justified far more formidable measures than those which were had recourse to. The second case, admitted Nov. 6, and discharged Dec. 15, was a rheumatic subject, having had rheumatism four years previously. The strictly rheumatic symptoms were severe, and the cardiac symptoms well-marked, but ceded to a few leeches, aided by cataplasms and a moderate sedative at night. The third case, admitted Aug. 20, and discharged Oct. 4, presented all the more important symptoms and signs, both local and general, of pericarditis of the most acute and pronounced description. But as some mercury was taken in this case, and to the extent of ultimately affecting the gums, how far, it may be asked, was the recovery attributable to this remedy? In answer to this, it was to be observed: 1st. That four doses only, of four grains each, of mercury with chalk had been taken in the course of thirty-six hours, when the symptoms had so much improved that the pulse had fallen from 132 to 100, and the respirations from 40 to 32. 2d. That the slight tenderness of the gums did not occur till five days after the marked change for the better. 3d. That the signs of pericarditis of the most decided character had preceded the exhibition of mercury for many days, so that here was a case of well-marked pericarditis of many days' standing, which began to subside within thirty-six hours after a few doses of mercury had been taken, although the evidence of the constitutional action of that drug did not appear till five days subsequently. So far as this case goes, the utmost it says for mercury is, that it is sometimes useful as an adjunct, when *not* given so as to produce speedily and fully its constitutional effects. In this case it should be observed, that, though mercury was given, *no depletion* was employed after the patient's entrance into the hospital. The fourth case, admitted Sept. 30, and discharged Nov. 22, was a very severe and most unpromising case from the first, simply as a case of uncomplicated acute rheumatism, and when thoracic complication set in, the local symptoms were well pronounced, and associated with much distress; impeded respiration; faintness; cough; and a very rapid and feeble pulse. As regards the general character of the case, simply as one of acute rheumatism, all practical men will at once recognize the class of case by the leading symptoms present on her entrance into the hospital; the anxious, depressed look, with dirty, half-lurid colour of the face; a furred tongue, with persistent, rough, dry edges, and tip resembling the strawberry tongue of a bad case of scarlatina; frequent purging of liquid, dark, foul matters, and equally offensive, sour sweatings; a pulse of 130, and the arthritic symptoms severe. What probability was there that such a case would have borne and been benefited by active antiphlogistic or mercurial treatment for the quelling of the local disturbance which subsequently occurred? or does not experience lead us to say that such a case would very probably have sunk under the combined depressing influence of the remedies and the disease, either immediately or at a later period, with sloughing sores of the back, and colliquative diarrhœa? At all events, this case showed what may be effected by a dozen leeches, with cataplasms and opiates, without any mercury, as the last showed what might be done without any depletion. In conclusion, Dr. Bennett observed that he might have brought forward many other examples of the same kind of treatment, which had proved equally satisfactory. In all the four cases related, the patients had left the hospital either without a trace of any cardiac disease, or with merely a slight systolic bruit present during excitement, and which was daily diminishing. His object had been to submit to the Society the non-necessity in a large proportion of cases, and in others the absolute impropriety, of attacking rheumatic pericarditis, either with large depletion, whether local or general, or with mercury so as to affect the system. He was by no means prepared to recommend the abandonment of mercury altogether, but he was quite satisfied that in many cases of acute rheumatism the system could not be brought under the full influence of mercury without very

materially increasing the danger. On the other hand, if we were satisfied with the general constitutional remedies that we were employing, if they were telling on the ordinary symptoms and on the general fever, there was every reason for trusting to such constitutional means, aided by the simplest and least possibly disturbing local means, when the internal sero-fibrous membranes became inflamed.—*Lancet*, 1851.

21. *Rapid Cure of Itch.*—M. HARDY states that by the modification which he has introduced into the mode of treating the itch at St. Louis, he is now enabled to definitively cure a patient in *two hours*, so that it is in contemplation to treat all patients suffering under this disease as out-patients. The entire body is first thoroughly rubbed for half an hour with soft-soap, which has the effect of breaking up some of the furrows in which the acari are lodged. A tepid bath is next employed for one hour, in order to soften the epidermis, the patient continuing to wash himself well while in it. Finally, the patients rub each other thoroughly for half an hour over the entire surface with the sulphur ointment (lard 8 parts, sulphur 2, subc. potass 1), and the itch is cured. The various secondary eruptions, formerly confounded with the itch, may require several days for their dispersion, by means of simple baths. In 4 only out of 400 cases so treated, have relapses occurred, and 144 cases out of 145 occurring in June were so cured. In this way the disease spreads by contagion much less than heretofore, when the patients had to wait until they could obtain admission into the hospital.

In a recent paper, however, M. DEVERGIE expresses an opinion that this rapid cure of a disease which has often been long persistent, is a practice not to be followed, as being dangerous to present or future health. In certain forms of itch the secretion is abundant, and when the disease has been mistaken, this may increase, so as to form a kind of purulent emunctory not to be at once destroyed with impunity. It is probable that some of the internal abscesses, which have been observed in cases of this disease, have arisen from its repercussion; and certainly in no other form of pustular eruption would the practitioner thus act. The itching or pruritus which is produced is not entirely an indifferent matter, and the habit of nocturnal scratching must not be suddenly suppressed. Even when pedicular disease or prurigo is suddenly arrested, dangerous pulmonary congestion sometimes occurs, requiring active rubefacients, although here little or no secretion has been suppressed. A single gentle friction suffices to destroy the contagious property, and it is best to complete the cure by repeating such for five or six days, than to run the risk, by too violent friction with very strong ointments, of producing the too sudden repression, or of exciting various forms of eczematous or lichenoid eruptions, which are sometimes more difficult to cure than the original disease, especially among the working classes, who are so apt to neglect the condition of their skin.—*Brit. and For. Med.-Chirurg. Rev.*, from *L'Union Med.* 1851, No. 95.

22. *Treatment of Hemicrania and Facial Neuralgia.*—M. CAZENAVE informs us (*Revue Médico-Chirurgicale*) that he has had marked success in removing the pains of hemicrania and facial neuralgia by means of the following pomade:—Pure chloroform ʒiv; Cyanide of potassium ʒiijss; Axunge ʒiij; Wax sufficient to give consistence.

M. Cazenave professes to have tried the cyanide of potassium alone, without any benefit, and therefore concludes that it is this particular combination which is so valuable. The mode of using it is to rub ointment, the size of a pigeon's egg, into the scalp, and after which the head is to be covered with an oiled-silk cap. The inunction is to be repeated according to circumstances. In facial neuralgia it is rubbed in over the affected nerve.—*Prov. Med. and Surg. Journ.* July 21, 1852.

23. *Employment of Oxygenated Water in Asphyxia.* By M. RUSPINI.—In a recent series of experiments upon the effect exerted by various gaseous bodies upon the contractility of the heart of the frog, MM. Polli and Broglia have especially drawn the attention of practitioners to the stimulating effect of oxy-

gen gas in asphyxia; and to the feasibility of employing injections of oxygenated water when the respiratory organs can no longer perform their functions. M. Ruspini, of Bergamo, recently in part carried out these views in treating a case of asphyxia from charcoal vapour, in which a slight degree of animal heat constituted the only remaining sign of life. He caused some oxygen to be disengaged from a flask of oxygenated water, and, this having been respired, and a little of the oxygenated water poured down the throat, animation became speedily restored.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *Journ. de Chem. Med.* 1852, No. 4.

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24. *Internal Administration of Chloroform in Delirium Tremens.*—R. H. Butcher relates (*Dublin Medical Press*, August 4, 1852) a very aggravated case of delirium tremens treated most successfully in Mercer's Hospital by the internal administration of large doses of chloroform. Mr. B. states that he thought that he was the first who tried the remedy in Great Britain, but he learns that Dr. Neligan employed it some months before. "The practice, however," he remarks, "comes recommended from America (*American Journal of the Medical Sciences*, January, 1852), and so far as a single case can speak, mine confirms the favourable report given of it, and still further goes widely to proclaim the powerful agency of the medicine over this inexplicable derangement of the nervous system.

"William Magrath, aged 26, a powerful young man, by trade a wine-porter, was admitted into Mercer's Hospital, June 25, 1852. During the last four years he has been in the habit of consuming large quantities of spirits of various kinds—wine, whisky, porter, &c., seldom to that extent as to produce stupid intoxication, but constantly keeping up for days together a state of the greatest nervous excitement. A day scarcely ever elapsed without a large quantity of stimulus being taken. About a fortnight before his admission, he commenced to drink more freely than before, and, as I am informed by his wife, came home drunk every night for a week. He then, through the interposition of friends, was arrested in this career, and promised to abstain from ardent spirits altogether. His stomach became very irritable; nothing in the way of food would rest upon it. He was depressed and melancholy, and sunk into a state of temporary inaction or collapse. This condition did not last for more than forty-eight hours, when violent reaction of the nervous and vascular system were fully established. Medical assistance was sought, but no medicine would stay upon the stomach, so that the symptoms gained ground. When such was found to be the case, the patient's friends had him removed to the hospital. When admitted, four days had elapsed from the time of his giving up the stimulus, and he had no sleep during that period. A train of symptoms consonant with the highest nervous irritation were present. His countenance was particularly anxious, with a wild expression; the pathognomonic symptom, tremor of the hands and tongue, fully established. His speech was hurried and uneven; he was quite irrational and wild, constantly looking around, apprehensive of some imaginary danger; pulse 120; surface of the body hot and burning, while his face was covered with perspiration, and his hair drenched in sweat. He was put into bed, but would not remain quiet, got up, and kept constantly walking up and down the ward and corridor. He was ordered two grains of calomel and a grain of opium in pill, to be taken every third hour. He had taken three, but each was vomited almost immediately after being swallowed. I then tried morphia in combination with creosote and camphor; a grain of morphia, two drops of creosote, and an ounce of camphor mixture, given every third hour. The draughts were likewise rejected. If the patient only took a sup of cold water to moisten his parched mouth and lips, it was instantly vomited.

"On the following morning, the 26th, his condition was a great deal worse. He never stopped quiet for a moment, from the time of his admission at 10 o'clock on the previous morning up to this time, a period of twenty-four hours. He was walking about all night with a keeper in attendance. His countenance was more wild; the eyes starting from his head; he was more delirious and more haunted with illusory apprehensions of a frightful nature; the tremor of

the tongue was greatly increased, and now the lower extremities participated in it more violently than the upper.

"The case at this period was a very serious one. From the irritability of the stomach, opium in any form could not be got to rest upon it. As for the idea of administering repeated, small opiate enemata in this powerful, restless, and uncontrollable young man, the practicability of it could not be entertained for a moment, though sanctioned by the high authority of Dupuytren. It may be said the object could be attained by force, but that I could not sanction. All through, it may be observed, I permitted the man to walk about the ward at will, closely watched. I have the greatest possible aversion to restraint in this disease. (I separate altogether from the present question the treatment of traumatic delirium after fractures.) I have seen a man in delirium tremens, from being held down and overpowered, thrown into epileptic convulsions, and I have seen a man die exhausted from ineffectual efforts to shake off and liberate himself from the strait waistcoat. From the satisfactory issue of the two cases reported in the periodical already referred to, I determined on a like practice—the internal administration of chloroform.

"At 10 o'clock this morning (26th), I administered one drachm of pure chloroform in two ounces and a half of water. In an hour after swallowing it, the patient became comparatively tranquil, and could be persuaded to lie in bed. When in the recumbent posture, the spastic short contractions of the muscles of the lower extremities, as well as those of the upper, were as marked as in the erect position.

"11 o'clock. He began to get drowsy, and slept for periods of ten and twelve minutes at a time. At a quarter before one o'clock, he became fully affected by the medicine, and fell into a quiet steady sleep; and on visiting him at two and four P. M., he was still in profound sleep, and continued so until seven in the evening. During this long sleep of six hours, he was calm and quiet, his pulse fell from 120, which it was in the morning, to 96, at which it remained; his respirations were between 16 and 20 in the minute, and not louder than natural; the temperature of the body was exalted. All along heat was maintained to the feet, and a pure current of air circulating around him, the windows being kept open. On his awakening, he was nearly quite sensible, and I took advantage of this pause to administer a full stimulant cathartic, consisting of six grains of calomel and ten of camphor, not only with the intention of freeing the bowels of accumulated matter, but likewise to guard against congestion of the brain. Orders were left in case he should not sleep before ten, to administer half a drachm of chloroform in two ounces of camphor mixture.

"27*th*, 10 A. M. The patient went to sleep almost immediately after swallowing the bolus on last evening, so he did not require the chloroform draught. His bowels were opened three times very freely during the night, and his condition is in every way greatly improved. He is quite rational, and answers every question sensibly; his pulse 96, considerable volume; skin cool; after being interrogated, he quietly turned on his side, and went to sleep.

"3 P. M. His bowels have been several times opened since morning, yet his pulse has risen to 110; the temperature of the body is also increased; he is hot and burning; altogether he is excited, and the fear of horrible objects around him has returned. On the presence of these symptoms, I at once repeated the full chloroform draught. Shortly after, he took a large drink of tea, which was inadvertently left beside his bed, which produced vomiting immediately; however, I was satisfied to let him remain without any further medicine until evening.

"9 P. M. Since my last visit the patient has slept, at short intervals, for one and two hours at a time; pulse still up to 110. Ordered the chloroform draught, one drachm, to two ounces and a half of camphor mixture, to be repeated.

"28*th*. After the patient had taken the draught last night, he fell into quiet sleep, which continued uninterrupted until eight o'clock this morning. He awoke quite collected and rational; his pulse 80; skin cool; his tongue and extremities quite free from tremor, and he feels in every respect well; his appetite has returned, and all food is retained on the stomach. Ordered a grain of morphia, in an ounce of camphor mixture, to be given at night.

"29*th*. This morning the patient is quite restored; he is sitting up eating his breakfast heartily in bed; in short, he is quite convalescent, and only requires a little nourishment to remove the debility consequent upon so severe a struggle.

"In reference to the administration of the chloroform in the foregoing case, there is one point which solicits our closest attention—namely, the remarkable lowering of the pulse, when the perfect effect of the medicine was produced; the pulse, in fact, might form the index to direct the practitioner as to the propriety of a repetition of the dose. Again, as a precautionary measure, I consider it desirable to keep heat to the feet, and a current of pure air circulating around the bed and through the apartment in which the patient lies."

A second case treated, but unsuccessfully, in Mercer's Hospital by Wm. Tagert, Esq., is reported in the *Medical Times* (Aug. 14, 1852). Mr. T. says that he "was induced to give this powerful agent an early trial, from having read a most flattering account of its success in two aggravated and almost hopeless cases of this disease, as related by Dr. Pratt, of Baltimore, and published in the *American Journal of the Medical Sciences* for January, 1852; and further, from having witnessed a few days since its internal exhibition in a case under the care of Mr. Butcher, one of my colleagues in Mercer's Hospital, where the remedy appeared to act almost as a specific."

Mr. T. says that he considers the remedy well worthy of a further trial, though it failed in his hands in the present instance.

The following is the report of the case:—

"Case.—*July* 5, 1852.—A strong healthy young man, having for many days drunk to excess, was brought to Mercer's Hospital suffering under well-marked symptoms of delirium tremens. Of his own accord he had taken some laudanum previous to admission, as he was well aware of the nature of his attack. He could not be induced to remain in bed, but kept constantly moving about, talking incoherently.

"I first saw him at visiting hour, 9 A.M. He was quiet in bed then; the tongue whitish and loaded; the breath had the peculiar offensive odour of those addicted to alcoholic excesses; pulse rapid, 140; some vomiting; profuse sweats. I gave him calomel and scammony, of each four grains. When bowels moved, to have one grain of morphine, to be repeated in six hours if necessary.

"6*th*. Night restless and wandering; no sleep; got morphine as directed; bowels well freed. At 4 o'clock A.M. became greatly excited, struggling furiously with his attendants, who were unable to control him; fancies there is a conspiracy to poison him. At 9 o'clock A.M. he was somewhat calmed. I now gave him ʒj of chloroform mixed in water; in half an hour he forced himself to vomit a little.

"1 o'clock P.M. More tranquil; had a short sleep; bowels open since morning visit; pulse 100; still irrational and talkative; ʒj chloroform repeated. 5 o'clock P.M. No sleep; same in other respects as last visit; gave again ʒj of chloroform; to have good beef tea and bread.

"7*th*. 9 o'clock A.M. Got a fair proportion of sleep since yesterday, but still irrational as ever; pulse down to 72; compressible. Resident pupil reports, that about 1 A.M. he found him much excited, and gave him 40 minims of chloroform; he has now no headache, suffused eye, or tendency to coma. I now ventured to give ʒj more of chloroform; it was shortly after rejected from his stomach; and, after a couple of hours, he became more furious and uncontrollable than ever. I visited him at 1 o'clock P.M., and not finding his condition improved, I at once determined to abandon the chloroform, and with the consent of my colleagues, to substitute the calomel and opium treatment, which I have so rarely found to disappoint me.

"I now gave him four grains of calomel and two of opium in a pill, with directions to get three of calomel and one of opium every third hour, watching its effects.

Henceforth he got sound and continued sleeps, and on the evening of July 9 he left the hospital, with his mind perfectly restored.

25. *On the Pathology and Treatment of Leucorrhœa based upon the Microscopical Anatomy of the Os and Cervix Uteri.*—[A very interesting and instructive memoir

on this subject was read before the Royal Medical and Chirurgical Society, by W. Tyler Smith, M. D. His researches are calculated to lead to a better understanding and an improved treatment of a very intractable class of disorders.]

The author first directed attention to the minute anatomy of the os and cervix uteri; and here, at the outset, he was desirous of expressing his warmest thanks and obligations to Dr. Arthur Hassall, for his valuable assistance in the microscopical part of the investigation, and without which he could not successfully have prosecuted his researches. The mucous membrane of the os and cervix uteri, like the mucous membrane of other parts, consisted of epithelium, primary or basement-membrane, and fibrous tissue, bloodvessels, and nerves. But as there were some special characteristics pertaining to this tissue, he proposed, for the convenience of description, to examine, first, the mucous membrane of the os uteri and external portion of the cervix; and, secondly, the mucous lining of the cervical cavity or canal. The epithelial layer of the former of these situations was tesselated or squamous, and so arranged as to form a membrane of some thickness: by maceration, it could be easily detached, and it was then found closely to resemble the epithelial covering of the vagina, with which it was continuous. Beneath this epithelial layer was the basement-membrane, covering numerous villi or papillæ, which studded the whole surface. Each villus contained a looped bloodvessel, which, passing to the end of the villus, returned to its base, and inosculated with other bloodvessels of the contiguous villi. These villi had been mistaken for mucous follicles, usually described as covering the surface of the os uteri; but the microscope failed to discover any distinct follicular structure in this situation. When a thin section of the surface of the os uteri was examined by a low power, the points of the villi could be seen as dark spots through the epithelial layer. A careful examination exhibited these spots as slightly depressed in the centre, yet nevertheless slightly elevated in their margins, nipple-shaped, and containing red points, which were the terminations of the looped bloodvessels. These appearances were produced by the villi being obscured by their epithelial covering. The thick layer of scaly epithelium, and the villi with their looped vessels, were the principal anatomical features of the mucous membrane of the os and external part of the cervix uteri; and these structures played an important part in the pathological changes which occurred in the lower segment of the uterus in leucorrhœa. Between the margin of the lips of the os uteri and the commencement of the peniform rugæ, within the precincts of the cervical canal, a small tract of smooth surface was usually found, which to the naked eye seemed of more delicate structure than the neighbouring parts, and when examined by the microscope was found to be composed of cylinder epithelium, arranged after the manner of the epithelium covering the villi of the intestinal canal. The cylinder epithelium covered in this situation villi two or three times larger than the villi upon the surface of the os uteri—so large, indeed, as to be visible to the naked eye when viewed by transmitted light. Within the cavity of the cervix uteri, the mucous membrane contained four columns of rugæ, or folds, arranged in an oblique, curved, or transverse direction; and between these columns were four longitudinal grooves. The two sulci in the median line, anteriorly and posteriorly, were the most distinct; and of these, the sulcus of the posterior columns was the most strongly marked. In the normal state, the transverse rugæ, with the fossæ between them, were filled with viscid, semi-transparent mucus; and when this was brushed away, a reticulated appearance, caused by numerous secondary rugæ, was visible. The author gave a very minute description of these four rugous columns, and the furrows between them, which was illustrated by some very beautiful drawings of the cervical canal, displaying the rugous columns and fossæ of the natural size, and magnified nine and eighteen diameters. The latter power showed a large number of mucous fossæ and follicles, crowding the depressions between the rugæ, and the rugous elevations also. The author mentioned that a healthy virgin cervix, of normal size, contained at least ten thousand mucous follicles. This anatomical arrangement secured a vast extent of superficial surface, which was still further increased by the presence of villi similar to those found in the lower part of the cervix; they were found in con-

siderable numbers on the large rugæ and other parts of the mucous membrane in this situation. By this disposal of the mucous membrane of the canal of the cervix, a very large extent of glandular surface was obtained for the purposes of secretion. In effect, the cervix was an open gland; and, in the opinion of the author, it was in this part of the utero-vaginal tract that the principal seat of leucorrhœa would be found to exist. There was an analogy here which should not be lost sight of, bearing, as it did, on the pathology and treatment of leucorrhœa, which was, the great similarity which existed between the skin and the mucous membrane of the vagina and the external part of the os and cervix uteri. The resemblance, in these situations, was certainly much nearer to the cutaneous structure than to the mucous membrane of more internal parts. These analogies were strongly confirmed by what was observed of the pathological conditions to which these parts were liable, and by the effect of therapeutical applications. The author dwelt on the fact that the epithelium of the os uteri and external portion of the cervix was constantly squamous, and that the epithelium immediately within the os uteri was cylindrical but not ciliated, but that in the rugous portion of the cervical canal the cylindrical epithelium became ciliated. The mucus secreted by the glandular portion of the cervix was alkaline, viscid, and transparent; it adhered to the crypts and rugæ, so as to fill the canal of the cervix. It consisted chiefly of mucus corpuscles, oil-globules, and occasionally dentated epithelium, all entangled in a thick, tenacious plasma; it was remarkable for its tenacity; while the mucus found in the lowest part of the canal was thinner in appearance. There was an essential chemical difference between the vaginal mucus and the secretion of the interior of the canal of the cervix; the first was always acid, and the latter invariably alkaline. Mr. Whitehead, of Manchester, had noticed this fact, and the observations of the author confirmed his views. The acid of the vaginal secretion was more than sufficient to neutralize the alkaline secretion of the cervix, and when any secretion from the cervical canal entered the vagina, it became curdled from the coagulation of its albumen. It was worthy of note, that that part of the mucous membrane of the uterus and vagina which resembled the skin was the only part which, like the skin, furnished an acid secretion. The vaginal mucus was a simple lubricatory fluid. But the uterine cervical mucus had other uses besides that of lubrication; in the healthy condition, in the intervals of the catamenia, it blocked up the passage from the vagina to the fundus; it thus defended the cavity of the uterus from external agencies, and from its alkaline character afforded a suitable medium for the passage of spermatozoa into the uterus. Having stated his views of the structure of the utero-vaginal mucous membrane, the author expressed his opinion that the glandular portion of the cervix uteri was the chief source of the discharge in leucorrhœa. Leucorrhœa, in its most simple and uncomplicated form, was the result of an increased activity of the glandular portion of the cervix. A follicular organ, which should only take an active condition at certain intervals, became constantly engaged in secretion. Instead of the discharge of the plug of mucus at the catamenial period, an incessant discharge was set up. At first, the discharge was but an unusual quantity of the elements of the healthy mucus of the cervix. The quantity increases, and becomes a serious drain to the constitution, and the glandular cervix in some cases becomes so excitable, that any unusual stimulus, even mental emotions, provokes an augmentation. The author next referred to the conditions under which the epithelium of the os and external part of the cervix uteri and upper portion of the vagina might be partially or entirely removed. The mucous membrane then presented an intensely red colour, from the presence of the naked villi, and an appearance of roughness or excoriation presented itself. He thought that among the causes which produced this aspect of ulceration were eruptive disorders, similar to herpes or eczema, which strongly marked the analogy between this tract of mucous surface and the skin. He had observed cases in which an occasional herpetic eruption upon the os uteri always produced herpes præputialis in the husband. But the most frequent cause of denudation arose from the alkaline mucous discharge of the cervix irritating the acid surface of the os uteri, and causing the rapid shedding of the epithelium round the margin of the os. A microscopical examination was given of the various discharges met with

in these affections, in making which the author was assisted by Dr. Hanfield Jones and Dr. Hassall. In cervical leucorrhœa, the discharge consisted of quantities of mucus-corpuscles, and in severe cases pus-corpuscles and blood-disks, with fatty matter, involved in a transparent plasma. The epithelial debris is constantly present, but in limited quantity. In vaginal leucorrhœa, including the secretions of the external portion of the os and cervix uteri, the plasma is opaque, and contains myriads of epithelial particles in all stages of development, with pus and blood-globules when the villi are affected. When a circumscribed ulcer is visible upon the os uteri to the naked eye, after death, such as occurs in eruptive affections of the os and cervix, and is examined by the microscope, with a low power, it is found to consist of a base from which the villi are entirely removed, or in which only the scattered debris of villi remain; and surrounding this base there is a fringe of enlarged villi, partially or entirely denuded of epithelium. The character of the so-called ulceration of the os uteri was detailed, and the nature of the discharges described. The author then observed that if any division of leucorrhœa were made, two principal forms must be recognized:—

I. The *mucous* variety, secreted by the follicular canal of the cervix.
II. The *epithelial* variety, in which the discharge was vaginal.

With respect to the so-called ulcerations of the os and cervix, two kinds of morbid change would be observed:—

1. *Epithelial abrasion*, by far the most common, in which the epithelial alone was deficient.
2. *Villous abrasion*, *erosion*, or *ulceration*, in which the villi are affected by superficial ulceration.

It was to the villi, denuded of epithelium and partly eroded, that the marked forms of granular os uteri were owing. The ovules of Naboth, often referred to by writers as obstructed follicles, the author had found to be in reality an eruptive disease of the mucous membrane analogous to a cutaneous affection. In these affections of the cervix uteri, it frequently happened that the cervix uteri was partially everted, and the deep-red surface covered by vascular villi, thus exposed, had frequently been mistaken for breach of continuity in the mucous surface. The author then offered some remarks on the practical deductions which might be drawn from the present investigation. The glandular structure of the parts from whence the leucorrhœal discharge arose pointed to the influence of constitutional causes, and exemplified why this affection should be so common in women of strumous habit and leuco-phlegmatic temperament; it vindicated the importance of constitutional treatment, and directed attention to the more rational employment of topical remedies; and it was evident that the profuse application of caustics, as recommended by the French school of uterine pathology, was both unnecessary and unscientific. He admitted that leucorrhœa of the cervical canal was sometimes cured by the use of caustics to the os uteri, but in these cases they acted as counter-irritants to the glandular structure. The indications of treatment, based on a knowledge of the minute anatomy of the os and cervix uteri, and the study of its pathology in leucorrhœa, appeared to the author to require constitutional medicines and regimen, with local applications. Local measures, to be of any use in cervical leucorrhœa, should be applied, not to the vagina, nor the os uteri, but to the canal of the cervix. In vaginal or epithelial leucorrhœa, common injections were serviceable; but in cervical or mucous leucorrhœa no benefit could result unless the injection passed into the cervix. He mentioned the methods he adopted to secure this result, and concluded by expressing a hope that the prosecution of these researches might prove serviceable, by rendering a troublesome class of maladies more intelligible than they had hitherto been, and by tending to correct errors of practice, and to indicate the just value of constitutional and topical remedies.

[Dr. Tyler Smith's paper was illustrated by a number of beautiful drawings, which excited great attention among the Fellows, representing the novel points described in the paper, and which were made under the superintendence of Dr. Hassall.]—*Lancet*, July 3, 1852.

26. *Complications of Scarlatina.*—Dr. Alex. Wood read before the Edinburgh Med.-Chirurg. Soc., 26th April, 1852, a communication entitled, "Notes on some of the more unusual Complications of Scarlatina, and more especially on the Relations between Scarlatina and Erysipelas." The paper began by referring to the variety of character exhibited by this fever even in the same localities and at the same seasons—and to the frequency with which dropsy followed the mildest forms, of which illustrative examples were given. The author narrated several cases of the *scarlatina sine exanthemate;* showed the connection subsisting between them and the severe attacks of angina, to which attendants on scarlet-fever cases, who have themselves had the disease, are exposed. He considered the diphtheritic affections of the throat occurring in the disease, and narrated cases where the throat, and from it the conjunctiva, meatus auditorius, nerves, and trachea, were consecutively affected. He showed the occurrence of a similar affection in erysipelas, as also the tendency to affections of the brain and kidney in both diseases. He likewise referred to the diffuse inflammation of the cellular tissue of the neck, as particularly illustrating this connection. Of this sequela several cases were given, and Dr. W. attempted also still farther to connect it with the disease of the pudendum described by Mr. Kinder Wood, demonstrating the connection between both of these affections and albuminous urine.

The President remarked that *sore-throat* was a very constant attendant on erysipelas of the face, and that in general it would be found that the inflammation of the fauces spread continuously from thence to one or other of the external outlets, as the angle of the eyelid or mouth, the opening of the nostril or meatus auditorius, and afterwards to the face and head; but the sore-throat, though often troublesome and even dangerous, he did not regard as corresponding in character with that of scarlatina, and certainly he had never observed, in the erysipelatous sore-throat, the pellicular exudation called *diphtherite*, which was common, and often fatal, as an accompaniment of scarlatina.

Dr. Seller said that the suppuration of the cellular tissue described by Dr. Wood as occurring after scarlatina, was quite a different affection from erysipelas; indeed, the skin proper was not involved in these cases in the inflammatory action. He agreed with Dr. W. in thinking that suppuration in the neck after scarlatina was a very formidable, and indeed generally fatal affection; in fact, it seldom attacked any but unhealthy children, or those living under very bad sanitary conditions. He had seen a great number of cases of this complication in an epidemic of scarlatina some years ago, chiefly in the Cowgate of Edinburgh; and there was in these cases no true erysipelas. He had always regarded the prevalence of these complications as determined in a great degree by the peculiarities of epidemic constitution.

Dr. Andrew Wood remarked, that he agreed with Dr. Seller as to the fact of the more frequent occurrence of severe cases of scarlatina characterized by diffuse cellular inflammation of the neck and suppuration of the cervical glands in particular epidemics; and he believed that unhealthy children were most apt so to suffer. Even in mild epidemics, cases of this kind were frequent amongst the children of the poor, whose powers of resistance to morbid action were small, in consequence of the influence of various depressing causes, as insufficient food and clothing, want of cleanliness, deficient ventilation, etc.; but children of those in comfortable circumstances were by no means exempt, especially in families of naturally delicate constitution, or in individuals of families whose constitutions had been weakened by previous ill-health. Dr. W. considered it of great importance to apply judicious and efficient treatment at as early a stage as possible, not only in the severe forms of scarlatina, but also in those mild attacks which might appear to require little or no remedial aid; because, as every one who had had much experience in this disease must have observed, it was impossible to predicate that dangerous symptoms might not develop themselves, either during the course of the primary fever, or subsequently, at the period when that formidable sequela—dropsy—was most wont to supervene. In this way, the occurrence of dangerous complications might often be altogether prevented, or, at least, be greatly modified in severity. An extensive experience in the treatment of scarlatina, had led him to the conclusion,

that the most efficient, as well as the most safe method of cure was by acting powerfully on the skin, and thereby assisting nature to eliminate the poison of scarlatina from the system. It is well known that the ordinary medicinal diaphoretics frequently failed in scarlatina. The warm-bath, when properly used, was often a most valuable remedy; but sometimes, especially amongst the poor, this was, for obvious reasons, not easily made available, and even when available it occasionally disagreed, causing sickness, giddiness, rigors, and other unpleasant symptoms. Dr. W. had in consequence been led to have recourse to a diaphoretic plan of treatment, which was easily available under all circumstances, whether in the hovels of the poor or the palaces of the rich, and from the use of which, in a large number of cases, he had obtained the most satisfactory results both in relieving present symptoms, and in averting future mischief. The remedy to which he referred, was what might be deemed *the modified vapour-bath*, for the suggestion of which the profession was indebted to the late distinguished Dr. John Thomson, of this city, and which deserved to be more extensively known than it was as an important adjuvant in the treatment not only of scarlatina but of many other febrile diseases. The following was the mode of using this remedy: You take several long worsted stockings, or long narrow flannel bags; after having wrung them out of water as hot as can be borne, you then fill them with common beer bottles containing very hot water. These are to be laid alongside the patient, but not in contact with the skin—one on each side, and one between the legs, will generally be sufficient; but more may be used if deemed necessary. The patient is to lie between the blankets (the head, of course, being outside) during the application of the bottles, and for several hours after. In the course of from ten minutes to half an hour, the patient is thrown into a most profuse perspiration—the stockings may now be removed. In mild cases, the effect is easily kept up by means of draughts of cold water, and, if necessary, by the use of two-drachm doses of sp. mindereri every two hours. In severe cases, where the pulse is very rapid, the beats running into each other—where the eruption is either absent or only partial, or of a dusky purplish hue—where the surface is cold—where there is sickness or tendency to diarrhœa—where the throat is aphthous or ulcerated, and the cervical glands swollen, then it is expedient to follow up the vapour-bath by four or five grain doses of carbonate of ammonia, repeated every three or four hours. Should this be vomited, then brandy may be given in doses proportioned to the age of the patient. In general, after several doses of the brandy, the stomach becomes tolerant of the ammonia, which may then be resumed, and continued till the course of the symptoms indicates its discontinuance. The carbonate of ammonia, the use of which in scarlet fever was long ago warmly advocated by Mr. Peart, he had found a valuable remedy; it seemed to act beneficially in several ways: 1st, by supporting the powers of life; 2d, by assisting the development of the eruption; and, 3d, by acting on the skin and kidneys. In the treatment of the sore-throat, he trusted chiefly to poultices applied externally, and frequent sponging of the pharynx with a gargle of dilute nitric acid, of the strength of ℥ij to ℥iij of simple syrup. Where the vapour-bath was used early in the disease, and its use continued daily, or even twice or thrice a day, according to circumstances, he had found that the chance of severe sore-throat was greatly obviated; and in regard to the supervening dropsy, he believed that by the use of the vapour-bath, with the other necessary precautions as to exposure, diet, etc., its occurrence would be rendered much more rare; at least, such has been the case in his own practice. In the treatment of the dropsical cases, it was also very useful, and even might be trusted to entirely in some instances. Dr. W. condemned the use of purgatives in scarlatina during the first ten days, as not only not required, but positively dangerous, as tending to interfere with the development of the eruption. In the later stages, as well as in the dropsy, they were often of great service.

Dr. Seller remarked that Dr. Wood's stimulant plan of treatment, however applicable to the treatment of scarlatina in the present day, could not have been followed out by any judicious practitioner in the epidemics which he had witnessed about twenty-five years ago, and in which, according to the testimony of all authors, an antiphlogistic treatment was most successful in obviat-

ing the dropsy and other complications. He was satisfied, from personal observations, that the disease had undergone a change of type, which was apt to be too little attended to by those who observed it at the present day.

Dr. CHRISTISON begged to corroborate Dr. Seller's statement as to the change of type which had taken place in scarlet fever in this city. Between 1817 and 1827, in this, as in all other febrile diseases, and also in the acute local inflammations, the sthenic or inflammatory character was much more marked than it has been since; and the treatment by depletion and other reducing means was then practised with propriety and success. No man would dream of using bloodletting and purging in fever and scarlatina now, as they were used with success, at all events with perfect safety, in the earlier period. Differences in "epidemic constitution" were far too little regarded by many writers in the present day.

Dr. MACLAGAN and Dr. GAIRDNER supported Dr. Christison's statement; and in regard to scarlatina, Dr. G. alluded to Dr. Abercrombie's introduction into this city of the antiphlogistic practice in the dropsy of scarlatina, and bore testimony to its remarkable success.

Dr. ANDREW WOOD said he had no doubt of the success of antiphlogistic practice in the scarlatina dropsy. In conjunction with the vapour-bath he did not hesitate to employ it in suitable cases, but considered that the important object of treatment was to prevent dropsy and formidable local complications, and that formerly attention had been too exclusively directed to these complications, and too little to the original blood disease, and to the existence of a poison in the system which was eliminated by the skin.

Dr. CHRISTISON repudiated the idea that the general disorder had ever, at any period, been overlooked in the treatment of scarlatina. The depleting treatment by bloodletting and purging, practised between 1817 and 1827, was not directed to local affections, but to the state of general reaction, the constitutional disease.

Dr. J. W. BEGBIE, reverting to the subject of the relation between scarlatina and erysipelas, remarked that another point of resemblance between the two diseases was the occurrence of coagulable urine in a considerable proportion of cases of both affections. He proposed to read a paper connected with this subject at next meeting of the Society.

Dr. W. T. GAIRDNER said that he believed many of the complications described by Dr. Alex. Wood, as common to scarlatina and erysipelas, would be found prevailing at particular seasons in other epidemic diseases. A marked instance was the epidemic fever of 1847–8, in which a throat affection very similar to what occurred in erysipelas was exceedingly common, and led to the more frequent performance of tracheotomy in a few months than had been necessary for several years before or since that period. Many of these cases were abdominal or enteric typhus, but the throat affection occurred in some instances in the ordinary typhus, and also, he believed, in the relapsing fever to a less extent. He had likewise seen, at the same period, a few instances of formidable suppurations of the parotid and cervical glands during the convalescence from typhus.

Dr. ALEX. WOOD said that it had not been his intention to dictate any exclusive treatment. He had merely wished to show that possibly the erysipelatous character of some cases of scarlatina might account for the differences of treatment required.—*Monthly Journ. Med. Sci.* July, 1852.

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27. *Temporary Albuminuria.*—Dr. JAS. W. BEGBIE read before the Edinburgh Med.-Chirurg. Soc., May 5, 1852, a paper on "Temporary Albuminuria, more particularly as occurring in the Course of certain Febrile or other Acute Diseases." The author defined *temporary* albuminuria as the manifestation and continuance of albumen in the urine during a limited period, and without any serious organic change in the kidney. He recognized three varieties of temporary albuminuria, each of which formed appropriate illustrations in some well-known conditions of acute disease. Thus *desquamative albuminuria*, the first variety, was found in simple scarlatina, in erysipelas, and in Asiatic cholera; *inflammatory albuminuria*, the second type, was illustrated by the con-

dition of the urine in the dropsy following scarlatina; while, according to Dr. B., a third kind, a *critical albuminuria*, occurred in pneumonia and in certain cases of typhus fever. In desquamative albuminuria, the occurrence of albumen was associated with the separation of epithelium from the mucous surface of the kidney and bladder; and in scarlatina this was likewise connected with a desquamative change in the skin, as it was in cholera, with a similar condition of the mucous coat of the intestines. Desquamative albuminuria was likewise found in some other febrile diseases, but these were the most frequent and familiar examples. The characters of the urine under the microscope (which Dr. Begbie described in detail) presented certain minor differences in different cases; but there were characters common to all cases of this affection, distinguishing it as a special form of albuminuria. Inflammatory albuminuria was characterized by the presence of renal tube-casts, often granular cells, and very generally blood-corpuscles, in greater or less abundance, showing a certain amount of renal congestion and disorganization. This was, according to Dr. B.'s experience, the invariable type of albuminuria in scarlatina attended with dropsy. It might, or might not be temporary; and probably in some cases led to permanent renal disease, especially if neglected or unskilfully treated. In most cases, however, it might be regarded as a curable disorder. Critical albuminuria occurred about the period of the resolution of certain fevers and acute inflammatory affections, particularly of the abdominal typhus, and acute pneumonia. It was distinguished, not only by the period of its occurrence, and the symptomatic changes with which it was connected, but by the collateral changes in the urine itself; viz., the occurrence of precipitated lithates, etc., as in the ordinary urine at the crisis of acute affections; and likewise by the absence of the large quantities of epithelium, and the other microscopic elements formerly alluded to. These were replaced in the critical albuminuria, by a large number of very minute molecules and granules, which Dr. B. had been led to regard as the debris of the exudation from the lung or other organs, chemically unchanged. The critical albuminuria, therefore, was to be regarded as the evidence of the change taking place in the primarily diseased organ during its restoration to a healthy state.

Dr. Christison said that his own experience, although consisting of scattered observations, went far to corroborate some of the results arrived at by Dr. Begbie. He had not found albuminuria quite so common in scarlatina, however, as Dr. B. had indicated, and though this might be owing in part to imperfect observation, he was inclined to believe that there might be a difference in different epidemics of the disease. In Heriot's Hospital, where his cases had been observed on the greatest scale, in conjunction with Dr. Andrew Wood, he thought it possible, also, that the inferior frequency of albuminuria might be in some degree owing to the strong derivation to the skin in the treatment practised by Dr. Wood. Dr. Christison advised Dr. Begbie to watch attentively the after history of those individuals having temporary albuminuria. He (Dr. C.) was inclined to think, from what he had observed, that the recurrence of the affection might in many cases be looked for at intervals; and possibly it might be found that the persons so affected fall a prey in the end, in a considerable proportion of cases, to organic disease of the kidney. He had seen instances of this, both in the alleged temporary albuminuria from eating certain kinds of food, and also in that which followed the application of blisters.

Dr. Andrew Wood laid before the Society at considerable length the particulars of his experience in Heriot's Hospital, with reference to albuminuria in scarlatina. His details were generally corroborative of the statements of Dr. Christison, showing that albuminuria occurred in scarlatina in about one-half the cases in which a daily examination of the urine was made. His experience differed from that of Dr. Begbie in a few other points. He had in one case met with a relapse of albumen in the urine. He had likewise seen the tube-casts, etc. (the inflammatory albuminuria of Dr. Begbie), in the simple scarlatina without dropsy; and in one case these occurred during steady improvement of the general symptoms. With regard to the influence of treatment alluded to by Dr. Christison, Dr. Wood had observed that among cases in which the

vapour-bath had not been efficiently used (at the commencement of the epidemic) there had been seven cases of albuminuria; whereas in the succeeding eighteen cases, treated by the vapour-bath and otherwise, according to his method (see last meeting of the Society), there were only five cases of albuminuria.

Dr. W. T. GAIRDNER remarked that, from the period of his earliest observations in regard to the diseases of the kidney, he had been induced to regard albuminuria as a species of catarrhal affection of the renal tubuli, or of the external urinary passages. He had found this view confirmed by the evidence both of morbid anatomy and of clinical inquiry. He regarded Bright's disease of the kidney as the analogue of bronchitis or broncho-pneumonia in the lung, as he had stated at a meeting of the Medico-Chirurgical Society several years ago. Although concurring in many of the observations of Dr. J. W. Begbie, he (Dr. G.) could not regard the three species of albuminuria described by him as being quite established. He (Dr. G.) was rather inclined to regard them as varieties, depending merely on different degrees of intensity of the affections, and perhaps on a few other circumstances not perfectly understood. He also thought with Dr. Christison that the occurrence of albuminuria, whether temporary or permanent, was always to be regarded with suspicion. He could not bring himself to look upon this circumstance as a favourable pathological indication, and thought that if it did not indicate the actual occurrence of renal disorganization, it ought generally to be accepted as evidence of some tendency to that condition.—*Monthly Journ. Med. Sci.* July, 1852.

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28. *Hay Fever.*—WM. P. KIRKMAN, Esq., of Melton, has suffered annually for the last seven years from an attack of hay fever, and gives the following description of the affection:—

"Every year, at about the latter end of the month of May, a slight irritability and sensation of soreness at the inner canthi of both eyes is experienced. This continues on and off, unaccompanied by any other marked symptoms, perhaps for three or four days (no symptoms of febrile irritation whatever); to these are shortly added slight lachrymation, which subsequently becomes more profuse, and continues daily, with irritation at the inner canthi, to increase; the nostrils, one or both, become obstructed, and this is soon followed by itching, sensation of pricking and soreness in the same region; the Schneiderian membrane now begins to secrete a quantity of thin watery fluid, calling for the almost incessant use of the pocket handkerchief; in fact, by the commencement of the month of June, there are all the appearances of what is vulgarly called 'a running cold;' these daily, but gradually, increase, and as gradually become accompanied by other concomitants, until about the end of June or the commencement of July, when the affection is at its height, and presents the following distressing symptoms: There is intense itching and irritability of the conjunctivæ, especially towards the inner canthi, as well as of the Schneiderian membrane; profuse lachrymation, and, when the attacks are severe, considerable intolerance of light; violent and continued sneezing, sometimes twenty or thirty times without ceasing; the defluxion from the nostrils is immense; there is coryza and gravedo with dyspnœa, which is frequently accompanied by wheezing during inspiration; the breathing being carried on by the mouth alone, as both nostrils are blocked up by the amount of secretion given out by their lining membrane. If these continue long, the eyes become bloodshot; there is headache, more or less severe; the pulse becomes small and weak; the tongue white and coated; shooting and darting pains about the back part of the head; lassitude and great debility. One might be inclined to doubt whether these evidences of the disease were not somewhat exaggerated, but it is not so. I have detailed to you as correctly as I can, everything relative to the symptoms and order of their occurrence as they attack myself individually, without any reference whatever to any medical author. I am generally free from the affection about the latter end of July, and I think I may say by the end of the first week in August, no traces of its existence remain manifest. It is equally severe in London as in the country. I am always worse during the day, and if in the forenoon the sun is shining bright, I hardly dare venture out

of doors, the intolerance of light being almost unbearable. The relief which is experienced for a few hours after a heavy shower of rain, can hardly be imagined, and the symptoms are always less distressing in wet weather. Again, it nearly always leaves me for a short time, sometimes a day or two, after a thunder-storm; and to this, partly, is my presence before you now to be attributed, for you will remember that yesterday we had a considerable amount of thunder and lightning: this circumstance, moreover, would tend to favour the idea entertained by some, both with respect to this, as well as to influenza, that the cause is to be attributed to some change in the electrical condition of the atmosphere—whether to an accumulation or deficiency of the electric fluid, I am not enabled to state. Ipecacuanha, it may be remarked, has no further effect upon me than the application of any other pulverulent matter would be supposed to have. On several occasions a pinch has been taken, the same as one would take a pinch of snuff, without producing any effect. I need hardly state that this was done merely by way of experiment. A sudden draught will bring on an attack immediately, which will continue for an hour or two, or even longer.

"One word may, perhaps, be desirable, relative to that from which it has derived its name—I mean hay, which brings on an attack, especially if it be new, almost instantaneously; and what is very remarkable and curious is, that I can always tell when any hay is approaching me, even if I do not see it. On one occasion, when walking in London with my friend Dr. Robert Growse, of Bildestone, I suddenly stopped, remarking that I would take any even wager that there was some hay close by. Before the doctor could hardly reply, a cart full of hay passed the end of the street down which we were proceeding. I could, were it necessary, relate to you many other similar occurrences; the one, however, which I have mentioned, is sufficient to verify my statement, and time will not allow of more. What then, gentlemen, is the cause of this periodical, but unwelcome visitor? I should feel inclined to differ somewhat from the opinion of Dr. Gordon, who supposes that it is produced by pollen from *one particular plant*, viz., the anthoxanthum odoratum, or sweet-scented vernal grass; and for this reason, because I am always attacked at least three weeks before the anthoxanthum is in blossom. If I may be allowed to offer my opinion, I consider it to be attributable to an idiosyncrasy of constitution, whereby the whole of the gastro-pulmonary mucous membrane is rendered susceptible of irritation, that irritation being produced by the pollen from a certain class of plants which blossom at that time of the year when the affection is prevalent. I refer to the whole family of the graminaceæ, rather than to any individual plant.

"And now, gentlemen, one word with respect to the treatment. It would, indeed, be preposterous in me, were I to make remarks on all the so-called remedies which have been recommended by various writers; suffice it to say, that I have tried very many of them, and all without effect; never have I found anything which afforded me the slightest permanent relief. Hot water fomentations, drinking hot water, cold-water draughts, effervescing mixtures, pressure on the bridge of the nose, have all in their turns carried off a paroxysmal attack of sneezing; but the good fortune of finding anything capable of allaying the almost intolerable itching of the eyes and nose, has never fallen to my lot. Dr. Owen Rees, Assistant-Physician to Guy's Hospital, recommended large doses of dilute sulphuric acid. I commenced with twenty minims three times a day, which, according to the direction of the Doctor, I gradually increased, until I arrived at a dose of one drachm three times a day. This had no other effect more than occasionally favouring me with a violent pain in the bowels, which compelled me to desist. Dr. Golding Bird and Dr. Gull, in consultation, recommended the disulphate of quinine with iron: this I continued to take for some considerable time, commencing at the ordinary dose, and increasing it gradually, which, however, proved equally ineffectual. Strychnia, recommended by Dr. Addison, in doses varying from the one-twentieth to one-twelfth of a grain, ter in die, was tried, but proved useless. Arsenic, sulphate of zinc, tincture of the lobelia inflata, snuff, laudanum, salines of all kinds, iodine, and a host of others which now escape my memory, have all had pretty fair trials, which, as

remedial agents in hay-fever, are all on a par. Such, then, gentlemen, is the hay-fever in my case. If you can kindly suggest anything, I shall be only too glad to give it a fair trial."—*Provincial Med. and Surg. Journ.* July 21, 1852.

29. *On some of the Principal Effects resulting from the Detachment of Fibrinous Deposits from the Interior of the Heart, and their Mixture with the Circulating Blood.* By Wm. Senhouse Kirkes, M. D.—("Proceedings of Royal Medical and Chirurgical Society.")—As an introduction to the subject, the author observed, that it was a clearly established fact, that the fibrinous principle of the blood might, under certain circumstances, separate from the circulating fluid, and be deposited within the vascular system, especially on the valves of the heart. The forms of fibrinous concretions to which the following observations especially applied, were, first, the masses usually described as Laennec's globular excrescences; and, secondly, the granular and warty growths adhering to the valves, and presenting innumerable varieties, from mere granules to large irregular fungous or cauliflower excrescences, projecting into the cavities of the heart. These growths, when once formed, whatever might be their origin, were full of peril, and would often remain so, long after the circumstances which gave rise to them had passed away. When of large size, or loosely adherent, they might at any time be detached from the valves, and conveyed with the circulating blood, until arrested within some arterial canal, which might thus become completely plugged up, and the supply of blood to an important part be suddenly cut off, from which, serious if not fatal results would ensue; or, smaller masses might be detached, and pass on into arteries of much less size, or even into the capillaries, whence congestion, followed by stagnation and coagulation of the blood, and all the consequent changes such coagulated blood is liable to undergo in the living body, would necessarily follow. Many singular morbid appearances observed in internal organs, and not well accounted for, were probably brought about in this manner. Again, the masses of fibrine might soften, break up, and discharge the finely granular material, resulting from their disintegration into the circulating blood, and, contaminating this fluid, might excite symptoms very similar to those observed in phlebitis, typhus, and other analogous blood diseases. Thus, the fibrinous material detached from the valves, or any other part of the interior of the heart, might be the cause of serious secondary mischief. The parts of the vascular system in which these transmitted masses of fibrine might be found, would in great measure depend upon whether they were detached from the right or left cavities of the heart. Thus, if from the left, they would pass into the aorta and its subdivisions, and would be arrested in any of the systemic arteries or their ramifications, and especially in those organs which receive large quantities of blood direct from the left side of the heart, as the brain, spleen, and kidneys: on the contrary, if escaping from the right cavities, the lungs would necessarily become the primary, if not the exclusive, seat of their ultimate deposition. A division of the subject being thus naturally formed, the author proposed to consider the subject, first as to the remote effects resulting from the separation of fibrinous deposits from the valves or cavities of the left side; and, secondly, as to the corresponding effects produced by the detachment of like deposits from the valves or cavities of the right side of the heart. The author then proceeded to elucidate the first branch of the subject, in which masses of some magnitude were detached from the left side, and arrested in an arterial channel of notable size. This pathological fact was illustrated by three cases, in many respects identical; for, in each, death appeared to ensue from softening of the brain, consequent on obstruction in one of the principal cerebral arteries, by a mass of fibrinous material apparently detached from growths on the left valves. The first case was that of a female, aged 34, of pale and delicate aspect. She had suffered from rheumatic pains, and there was a loud systolic murmur heard over the entire cardiac region. While under treatment for these symptoms, she suddenly fell back as if fainting. She was found speechless, with partial hemiplegia of the left side, but there was no loss of consciousness. The hemiplegia increased, involved the face and limbs, and gradually became complete in regard to motion; but sensation remained unimpaired. These

symptoms lasted five days, when she died quietly. The *post-mortem* examination developed much congestion of the pia mater, amounting, in some places, to ecchymosis. The right corpus striatum was softened to an extreme degree, being reduced to a dirty, grayish-white pulp. In the posterior lobe of the right cerebral hemisphere was a similar spot of pale softening. The right middle cerebral artery, just at its commencement, was plugged up by a small nodule of firm, whitish, fibrinous-looking substance, not adherent to the wall, but rendering the canal almost impervious. The vessels of the brain were generally healthy, except a yellow spot or two in the coats of those at the base of the brain. The heart was enlarged; several broad white patches externally. The right valves were healthy, so also were the aorta; but the mitral valve was much diseased, the auricular surface being beset with large warty excrescences of adherent blood-stained fibrine. The right common iliac artery, about an inch above the origin of its internal branch, was blocked up by a firm, pale, laminated coagulum, which extended into the internal iliac. The pleuræ were adherent in places; liver and intestinal canal healthy; spleen large, pale, and soft, containing a yellowish-white cheesy substance. The kidneys were pale, rough, and granular; within the cortex of the right were several large masses of yellow deposit, surrounded by patches of redness. Death had resulted, in this case, from the softening of a large portion of the right side of the brain, which the author considered to have arisen from an imperfect supply of blood, consequent on the middle cerebral artery of the same side being obstructed by a plug of fibrine. The author then discussed the sufficiency of such an obstruction to produce the effects ascribed to it, and he brought forward many examples showing that atrophy and disorganization usually resulted from any circumstance which materially impeded, or entirely cut off, the supply of blood to a part. The author then directed attention to the probable source of the fibrinous plug found in the middle cerebral artery. The suddenness of the cerebral symptoms rendered it probable, that the blocking up of the artery was equally sudden, and not the result of gradual coagulation of the blood within the vessel. The absence of all local mischief in the coats of the artery at the point of obstruction, as well as elsewhere, pointed to some other than local origin for the clot; and the author, at the time of the examination, formed the opinion that a part of the fibrinous deposit on the mitral valve had become detached, and carried by the stream of blood, until arrested at the angle whence the middle cerebral proceeded. This explanation suited equally for the plug found in the common iliac; for it was quite conceivable that portions of the loosely adherent fibrine might be easily detached by the stream of blood washing over the mitral valve, and, when once admitted into the circulating current, they would only be arrested by arriving at a vessel too small to allow their transit along its canal. Two other cases were described by the author, possessing many interesting points of resemblance: one, a female, aged 24; the other, a male, of the same age. Both were admitted into the hospital with hemiplegia of the left side; each had heart disease, indicated by a loud systolic murmur. The *post-mortem* examinations revealed the following morbid appearances common to both: Softening of a limited portion of the brain, producing death by hemiplegia; obliteration of the cerebral artery supplying the softened part; coagula in one of the iliac arteries; fibrinous deposits in the kidneys and spleen; and the presence of fibrinous warty excrescences on the valves of the left side of the heart. So many and such rare features of resemblance could not fail to demonstrate a very close connection between the several morbid appearances so exactly reproduced in each case. The author believed that these three cases satisfactorily established the two following conclusions: 1st. That softening of a portion of the brain, with attendant loss of function, might result from obstruction of a main cerebral artery by the lodgment of a plug of fibrine within its canal. 2d. That the foreign substance thus obstructing the vessel was probably not formed there, but was derived directly from warty growths situated on the left valves of the heart. The author thought it not improbable, although in the absence of direct proof it was but supposition, till further investigation confirmed these facts, that many cases of partial and temporary paralysis suddenly ensuing in one or more limbs of young persons, especially if accompanied with signs

of cardiac disease, might be due to interruption of a proper supply of nutriment to the brain by the temporary plugging up of a principal cerebral artery by fibrine, detached from a diseased valve on the left side of the heart. Other arterial branches besides those of the base of the brain might arrest these fibrinous deposits derived from the valves of the heart. In cases 1 and 2, coagula were found in the iliac and femoral arteries; and in case 3, in the renal. The author thought that many specimens found in museums, and supposed to illustrate the spontaneous coagulation of blood, or the deposition of fibrine within a limited portion of an arterial trunk, were probably to be referred to the same cardiac origin; and he illustrated the point by reference to a preparation in the museum of St. Bartholomew's Hospital. The second subject of inquiry consisted of an examination into the effects produced by smaller portions of fibrine detached in a similar manner, but arrested in the minute arterial branches, or even in the capillaries. The author thought that the singular masses of yellow fibrinous substance found in the spleen and kidneys, and other organs, and hitherto described as "capillary phlebitis," "metastasis," or "fibrinous deposits," were derived from this cause. Out of twenty-one cases in which the author had observed these deposits in the spleen and kidneys, or other parts deriving blood directly from the left side of the heart, in nineteen there was disease of the valves, or of the interior of the left side of the heart. In fourteen of these there were fibrinous growths on the surface of the left valves; in the remaining five there was simple mention of valvular disease. The author thought that the mere fact of so large a number of cases of so-called "capillary phlebitis" being associated with the presence of fibrinous deposit on the valves of the heart, suggested a very close relation between the two morbid states. The author then entered upon the third branch of this part of the subject, concerning the series of effects which might result from the introduction of fibrinous particles into the circulating blood, manifesting phenomena indicative of the existence of a morbid poison in that fluid. A case was related of a youth, aged fourteen, admitted into the hospital with obscure typhoid symptoms, the surface of the body being covered with petechiæ. Delirium, with much febrile prostration, followed; he became subsequently comatose, and died. Upon examination of the body, the surface was found covered with petechiæ. The pia mater was infiltrated with what seemed recently effused blood. The surface of the brain thus presented a blotchy appearance, and, amid these spots, were yellow-coloured patches of various size; some were of a greenish-yellow hue, and had the appearance of being smeared over with pus. The brain was unduly congested, and some ecchymosis near the surface; the cerebral arteries and sinuses healthy; several petechial spots on the surface of the heart, as well as in the cavities; and, on the auricular surface of the mitral valve, some white fibrinous vegetations, very soft and friable; a like deposit on the aortic valves, with evidences of ulceration; several yellow masses of fibrinous deposit on the surface of the spleen; cortical part of the kidney covered with minute petechial spots, in the centre of which was a buff-coloured dot; several large yellowish blotches extended deep into the substance of the cortex. The intestinal mucous surface was covered with petechial spots, which were apparent also on the mucous membrane of the bladder, pharynx, œsophagus, stomach, larynx, and trachea. The author considered the mystery of this case cleared up by the *post-mortem* examination. The attack had been ushered in by a severe pain in the right groin, which was rheumatic; then ensued rheumatic inflammation of the mitral and aortic valves, with ulceration of the latter, and deposition of fibrine. From these deposits portions had probably separated during life, and were transmitted with the blood to all parts of the body; and, being arrested in the capillary networks and smaller arteries, produced the various petechial and buff-coloured spots above described.

The second part of the paper related to the effects which might result from the detachment of fibrinous deposits from the right valves of the heart. Reference was made by the author to a paper on the Formation of Coagula in the Pulmonary Artery, by Mr. Paget, published in the *Transactions* of the Society, as well as to a specimen in the museum of St. Bartholomew's Hospital, in which there was deposition of fibrine on each of the pulmonary valves, with old coagula filling many of the branches of the pulmonary artery. In this case several lar ge

solid, fibrinous masses were found in the substance of the lungs, presenting appearances not unlike portions of old pulmonary apoplexy. Lastly, the author recapitulated the principal points which he was desirous of establishing, viz.: 1st. That fibrinous concretions in the valves of the heart admit of being readily detached during life. 2d. That if detached and transmitted in large masses, they may suddenly block up a large artery, and thus cut off the supply of blood to an important part; if in smaller masses, they might be arrested by vessels of smaller size, and give rise to various morbid appearances in internal organs; or the particles mingled with the blood might be but the debris of softened fibrine, yet with power to produce a poisoned state of the blood, and bring on typhoid or phlebitic symptoms. 3d. That the effects produced and the organs affected would be in great measure determined by the side of the heart from which the fibrinous material had been detached: if from the right side, the lungs would bear the brunt of the secondary mischief; but if, as was most commonly the case, the left valves were the source, the mischief would be more widely spread, and might fall on any part, but especially on those organs which were largely and directly supplied with blood from the left side of the heart, as the brain, spleen, or kidneys.—*Medical Times and Gazette*, June 12, 1852.

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30. *On the Influence exerted by Chronic Diseases upon the Composition of the Blood.* By MM. Becquerel and Rodier.—The following are the conclusions of a paper recently read at the *Académie des Sciences*, detailing the results of MM. Becquerel and Rodier's latest hæmatological researches: 1. The majority of chronic diseases and various anti-hygienic circumstances induce an increase or diminution in the three principal elements of the blood—the globules, the fibrine, and the albumen, and this either separately or simultaneously. 2. The globules undergo diminution in the course of most chronic diseases of long duration, and especially in organic diseases of the heart, the chronic form of Bright's disease, chlorosis, marsh cachexia, hemorrhages, hemorrhoidal flux, excessive bloodletting, the last stages of tubercular disease, and the cancerous diathesis. The same result is observed in those whose food is not sufficient in quantity or reparative power, or who are exposed to insufficient aeration, humidity, darkness, &c. 3. The albumen of the serum of the blood is diminished in quantity in the third stage of heart-disease, great symptomatic anæmia, the cancerous diathesis, and insufficient alimentation. 4. The fibrine is maintained at its normal proportion, and sometimes increased, in acute scorbutus. It is diminished in chronic scorbutus, as also in the scorbutic condition symptomatic of certain chronic diseases, which is most often and most markedly observed in organic diseases of the heart. 5. In all the above-mentioned circumstances, the quantity of water contained in the blood becomes very considerably increased. 6. A diminution of the proportion of globules is especially accompanied by the following phenomena: a colourless state of the skin, palpitations, dyspnœa, a *bruit de soufflet* heard at the base of the heart during its first sound, an intermittent *bruit de soufflet* in the carotids, and a continuous *bruit* in the jugulars. 7. The diminution of the proportion of albumen, even though not very considerable, when it takes place in an acute manner, rapidly gives rise to the production of dropsy, but it requires to be much more considerable when not appearing in the acute form. Considered in a general manner, dropsy is the symptomatic characteristic of a diminished proportion of the albumen of the blood. 8. A diminished proportion of fibrine is manifested by the production of cutaneous or mucous hemorrhages. 9. In anæmia symptomatic of considerable hemorrhage or insufficient alimentation, the change in the blood is characterized by a diminution of its density, an increase of the water, diminution of globules, a maintenance of the normal proportion or sometimes a slight diminution of the albumen, and a normal proportion of fibrine. 10. In chlorosis, which is an entirely distinct affection from anæmia, there may be no changes in the blood whatever. When such are present, they consist in a diminution of the proportion of globules, an increase of that of the water, and the normal quantity or an increase of the fibrine. 11. In the acute form of Bright's disease the fibrine continues normal, and the albumen is diminished. In the chronic form there is a diminution of globules and albumen, and sometimes of fibrine. 12. Most of the dropsies regarded as essential depend upon a diminution of the

proportion of albumen; and usually originate in a material cause, consisting in a degeneration of the solid or fluid parts of the economy. 13. In diseases of the heart the blood becomes more and more changed, as they approach the fatal termination. The changes consist in the simultaneous diminution of globules, fibrine, and albumen, and an increase of water. 14. In acute scorbutus, the principles of the blood do not undergo any appreciable modification. In the chronic form the fibrine is notably diminished, while the globules are sometimes considerably increased. In both forms, the increase of the proportion of the soda of the blood explains all the circumstances; but it has not yet been demonstrated. 15. The above modifications should influence our therapeutical management of these different morbid conditions, as each element of the blood is susceptible of special modification. Thus, when the proportion of albumen is diminished, we prescribe cinchona, and a tonic strengthening diet. A diminution of fibrine and an increase of the soda of the blood are to be met by good diet, vegetable acids, and appropriate hygiène; and by hygienic measures and the exhibition of iron, we combat the diminution of globules.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *L'Union Médicale*, No. 66.

31. *On the Protection against Smallpox afforded by Vaccination, illustrated by the Returns of the Army, Navy, and the Royal Military Asylum.*—T. G. Balfour, M. D., read a paper on this subject before the Royal Medical and Chirurgical Society, June 8, 1852. One of the principal difficulties in the investigation of this subject, he thinks, arises from the impossibility of ascertaining what proportion of the general population was unprotected by vaccination. Accurate deductions could, however, be founded on the returns of the army, navy, and Royal Military Asylum. Although the returns of the first department did not show the actual number of soldiers who had been vaccinated or had the smallpox, yet a tolerably accurate approximation might be obtained. From returns forwarded to the Army Medical Board, it appeared that out of 90,092 recruits medically inspected and found fit for service, 20,132 bore marks of smallpox, 64,096 had marks of vaccination, and 5864 bore no distinct traces of either. By the rules of the service, the latter would be immediately vaccinated; added to the second class, a total of 69,960, or 78 per cent. of the whole, would be protected by vaccination; 22 per cent. representing the proportion of those protected by previous smallpox. The question next arising was, what number of admissions into hospital, and deaths by smallpox, had occurred in this number. Abstract No. 1, in the Appendix, furnished this information, and it showed the proportion of cases of smallpox to have been 66, and the deaths 8, in every 100,000 men serving throughout the army. But the prevalence and mortality varied in different portions of the force. Thus, the deaths had been four times as numerous among the troops in the United Kingdom as in temperate colonies, and eight times as numerous as in tropical colonies; while a still greater disproportion was found to exist in the admissions into hospital. A comparative statement of the proportion of smallpox among the black troops and Europeans serving in tropical colonies during several epidemics was furnished, by which it appeared that the disease literally decimated the black troops, while not a single death occurred among the European soldiers serving in the same garrisons. The author observed, that if the hypothesis be correct, that the protective power of vaccination became gradually weaker, and at length died out, the mortality from smallpox should be greatest among the old soldiers. The following return illustrated this point:—

Ages.	Aggregate strength at each age.	Died by Smallpox.	Ratio of Deaths per 1000 of strength.
Under 20	43,833	15	0.342
20 — 25	90,041	28	0.311
25 — 30	49,285	3	0.061
30 — 35	37,151	8	0.216
35 — 40	25,017	1	0.040
40 and upwards	9,270	0	...
Not known	...	1	...
	254,957	56	220.0

Returns from the navy exhibited the same satisfactory evidence of the protective power of vaccination. The vaccination register of the Royal Military Asylum had been kept with great care, and reliable evidence could be obtained from it. During a period of 48 years, 31,705 represented the aggregate strength of the boys, and among these only 39 cases of smallpox occurred, of whom 4 died. It must be borne in mind that every child bore marks of cow-pox or smallpox, or had been subsequently vaccinated; so that, in a population completely protected, the average was but 123 cases, and the deaths but 12, in every 100,000, being a still lower ratio than in the army serving in the United Kingdom. Another return displayed the comparative amount of protection afforded by vaccination and previous smallpox. The ratio of cases per 1000 of the latter was 6.15, and the deaths 2.05; while of those previously vaccinated, the ratio of cases was 7.06, and the deaths 0. All the deaths were thus from secondary smallpox. The author thought the preceding facts afforded most conclusive evidence of the protective value of vaccination, while the extensive numbers, and the period of time over which the observations extended, justified a very firm reliance on such evidence. He thought this evidence had an important bearing on the proposition recently made to legalize inoculation. While so large a proportion of the community remained unprotected by vaccination, he thought such a course most unjustifiable. Absolute immunity from smallpox was not to be expected, but the foregoing returns showed the great exemption obtained by vaccination. Vaccination should be made compulsory. It had been said that this would interfere too much with the liberty of the subject; but so to a certain extent did all measures relating to the public health. The prejudices of the few must be made to give way before the interests and safety of the many. In Factory Acts, Parliament recognized the principle of protecting the young against an amount of labor calculated to be injurious, and this in spite, not of the prejudices, but of the so-called rights of parents; and it would be but an extension of this humane principle to make vaccination compulsory, and thus afford protection against a malady of so fatal a character as smallpox.—*Lancet*, June 19, 1852.

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32. *Smallpox.*—Dr. John Webster, in an interesting paper on the Health of London during the six months terminating March 27th, 1852 (*London Journal of Medicine*, Aug. 1852), gives some useful information relative to the prevalence of smallpox in London, and furnishes several important statements calculated to disprove the opinions lately put forth by Dr. Gregory.

Dr. Webster states that "smallpox has proved immoderately severe during the whole of last winter, having caused perhaps more deaths in London during the past season, than in any six months of the preceding twelve years, excepting in 1844 and 1848, in the former of which years, 1804 persons died from variola, and 1617 during the latter. In consequence of the recent augmentation of mortality from this complaint, considerable alarm became created in the public mind respecting the protective efficiency of vaccination, especially as many cases were stated to have had cow-pox in early life, and hence were believed safe against secondary attacks of smallpox. I will only now remark, in reference to one question, which has occupied a prominent place in this discussion, that several data, recently collected, seem highly instructive. I now allude to the ages of those parties who have unfortunately fallen victims to smallpox during the last six months, seeing a very large proportion were under puberty. Practitioners of eminence have asserted that individuals, although properly vaccinated in infancy, may take variola when arrived at manhood; since they say, authoritatively, cow-pox will have then lost much of its prophylactic efficacy, or have been even altogether eliminated from the system. Supposing, for the sake of argument, that some foundation exists for such inferences, it must be admitted, according to irrefragable evidence, that smallpox, whether secondary or otherwise, seldom proves fatal to adults, in comparison with the large proportion of children who sink under it. Hence, however frequently variola may supervene in adults, the number of deaths is, speaking comparatively, at all events then much smaller than among infants and children; since it appears 619 fatal cases, out of the 728 recorded during the last half year,

were under fifteen years of age. Taking it, therefore, as correct that cow-pox may occasionally become less efficacious as a protection, in after life, against attacks of variola, the facts now mentioned respecting the very great mortality of smallpox in young, compared with old people, decidedly prove the previous argument to be altogether erroneous. On the other hand, the greater fatality of variola among young persons indicates, in a higher degree, the propriety of employing vaccination, which would, I believe, prevent more effectually the spread of smallpox, provided that operation were always carefully and properly performed.

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33. *Hereditary Transmission of Phthisis.*—Since 1825, M. GUILLOT has been tracing out the history of certain cases of phthisis, in order to illustrate the laws which regulate the hereditary transmission of this disease. He follows the history of the family line, in order to ascertain whether this does not, by successive degradation, become exhausted and extinguished. He refers to the case of a man who died of phthisis, aged 66. Before the age of 48, all his four children died of the same disease; all had children, but the third generation did not survive the period of the first dentition, all being carried off either by pneumonia supervening on tubercle, or by tubercular meningitis. In another example, a grandfather died of phthisis. One of his daughters also died of it at 30. The other daughter is still living, but three of her children have died either of tubercular pneumonia or meningitis. The general conclusion is, that in proportion as phthisis descends in the genealogical scale, its manifestation takes place at an earlier period of life. A child will therefore run greater chance of falling a victim to the consequences of the numerous accidents of a tubercular affection, in proportion as the phthisical parents who have given birth to it have not attained advanced age. In a diagnostical point of view, then, the existence of tubercular disease in the offspring while yet young, offers a very strong presumption of phthisis. The practical importance of this is especially evident in pneumonia, so common is it to find tubercles of the lungs in the bronchial glands, masked by the signs of this affection.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *L'Union Médicale*, 1852, No. 5.

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34. *On the Influence of Pregnancy and the Puerperal State on the Progress of Phthisis.* By MM. GRISOLLE and DUBREUILH.—M. Grisolle, in reporting to the Academy of Medicine upon a memoir presented by M. Debreuilh, observes, that the views he formerly expressed have only obtained additional confirmation. In none of the thirteen cases related by M. Dubreuihl, or in the thirty-five now collected by M. Grisolle, has the power formerly vaguely attributed to pregnancy of staying the progress of phthisis, been observed. In some cases, indeed, it seems to have played the part of determining cause, and in others to have aggravated the condition. According to M. Grisolle's observation, cases in which the first symptoms of phthisis are developed at an early period of pregnancy, and amidst a state of health otherwise satisfactory, are more common than those in which the pregnancy is consecutive to the early appearance of the organic disease. Both observers are, indeed, of opinion that phthisical women conceive with difficulty; and M. Delafond assured the reporter that cows, even at an early period of the disease, usually remained sterile, even though they continued fully alive to the attentions of the bull. He added, also, that in such as did conceive, abortion was common about the fifth or sixth month; while in such as went their full time, the progress of the disease was in nowise modified. In M. Grisolle's former papers, he stated that pregnancy, in his cases, so far from retarding, hastened the progress of phthisis; and although the rate was found to be somewhat slow in M. Dubreuilh's cases, this probably arose from their having occurred in private practice, while M. Grisolle's were all hospital patients. Both sets of cases, however, amply disprove the suspending power of pregnancy; and M. P. Dubois's experience has long since led him to a similar conclusion. Phthisis which has appeared at an early period of pregnancy pursues a constantly onward course; and if improvement is to take place at all, it never does so until after delivery. It is rare for phthisis thus complicated to present those intermissions or sudden suspensions of progress sometimes met

with in ordinary phthisis. The children brought forth by phthisical mothers, though usually small, are plump and well-looking to an extent that would not, *à priori*, be expected from persons suffering from so exhausting a disease.

M. Dubreuilh expresses a theoretical opinion in favour of the prevalent belief that the progress of phthisis is hastened by *delivery*, but his facts are against him; and so complete is the suspension of the disease sometimes, that delusive hopes of cure are entertained.

In regard to the influence of *phthisis on pregnancy*, both observers are agreed that such patients *ordinarily* go their full time; which must be regarded as a remarkable fact, when it is considered that more than one-half the pregnant women attacked by pneumonia, abort. Both also find that these women usually have very easy labours—a fact due to the smaller size of the child and the relaxed state of the tissues. Both, too, consider that the attempt to suckle exerts the most disastrous influence upon both mother and child.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *Bulletin de l'Acad.* tom. xvii. and *Rev. Méd.* 1851, tom. ii.

EPIDEMICS.

35. *The Furunculoid Epidemic.*—Thomas Hunt, Esq., in an article in the *Lancet* (Aug. 14, 1852), observes: "It is one advantage resulting from the Registration Act, that, by recording the number of deaths occurring from any fatal epidemic within a given period, it furnishes evidence of the rise, progress, and decline of the visitation. It is now well known to the profession that a class of diseases has recently prevailed, to which the name of "the furunculoid epidemic" has been given, consisting of carbuncles, boils, whitlows, pustules, and superficial collections of purulent matter.

"This pestilence," he further remarks, "although it has occupied but little of public attention, has been more extensively fatal than any one would have suspected; that it has existed for several years, increasing in intensity up to the present year, if not to the present month, and that, unlike other epidemics, which usually traverse a portion of the globe, not contemporaneously but consecutively, this disease has existed at one and the same time, certainly in the four quarters of the globe, and probably in every country on the face of the earth.

My own attention was first called to the disease about the commencement of the year 1849, when I had occasion to remark that chronic eruptions of the order Pustulæ had become unusually common, especially among a class of patients not frequently affected in this way, namely, the well-fed; their eruptive diseases being generally confined to the orders vesiculæ, squamæ, and papulæ. I had also observed that, in a patient under treatment for lepra or psoriasis of long continuance, the scales would disappear, and a crop of pustules would spring up in their place. This is no very unusual thing at any time, but the frequency of the occurrence arrested my attention. The next thing I observed was, that the superficial whitlow became very common. In one patient not less than seven fingers, and in another five, became affected in succession with this disease. In the course of three months about twenty patients consulted me in my private practice, with a collection of purulent matter immediately under the dermis, near the matrix of the nail, or at a short distance from it, in one, two, or more fingers of both hands, and in some instances occupying the palm. Shortly after this, boils and carbuncles were brought much more frequently under my notice than usual; some of the latter were of alarming character, though none of them fatal. These painful affections appeared to be very capricious in selecting their locality, scarcely any part of the body being passed over, excepting only the legs and feet. One patient, a middle-aged lady, had a carbuncle on the back of her neck, the inflammation extending around the throat up to the apex of the occipital bone, and down to the dorsal vertebræ. Another female had an immense furuncle on the os coccygis; a third

on the right labium; and a fourth, a young lady aged seventeen, had the whole abdomen covered for several weeks, together with a succession of boils and ecthymatous pustules. A gentleman had a carbuncle on the scalp, of prodigious size, in the year 1851, and in the spring of 1852, very recently, another still larger, occupying a different portion of the scalp; another patient had one on the thigh; a third, in the axilla, which appears to be a very common locality; a fourth, on the mastoid process; a fifth, on the throat, near the larynx; and several on the buttock. A servant-girl having been under treatment for an eczematous eruption on the wrist, upon the disappearance of this disease, presented the forearm covered with furuncular abscesses. Several females presented themselves with pustules and boils on the forehead, ears, eyelids, sternum, mammæ, and indeed on almost every part of the body, the face not escaping. At present, however, I have not met with a single case of carbuncle or boil below the knee, although pustules have been observed on the legs, and boils are very frequently seen on the thighs.

Although the seat of this epidemic is the skin and subcutaneous tissues, it has by no means the character of a purely local disease. The health has, in most cases, suffered more or less before the breaking out of the disease and during its progress; and in several cases in which it has persisted for some weeks, successive crops of boils or pustules appearing in different parts of the body, a restoration of the general health of the patient has appeared to be the signal for the final disappearance of the local affection. The impaired health which has accompanied the disease has been various in character and duration; but its prevailing type has been general and local debility, and a feeble, sluggish action of the heart and arteries. Many patients have complained of a slight degree of giddiness, a few of headache, and several have mentioned an indescribable sense of oppression at the præcordia, a general feeling of languor, and inaptitude for bodily or mental exertion, and an unusual degree of fatigue, sometimes amounting to faintness, from a very moderate amount of muscular effort. The pulse has generally been feeble and slow, thus denoting the cerebral symptoms to be indicative rather of deficient energy in the circulation than of plethoric congestion of the brain. A degree of hoarseness, such as accompanies typhus fever and hemorrhagic atony, and other exhausting diseases, has occasionally accompanied the attack. The voice appears to take a higher pitch, and to have lost its fulness and mellowness. This has chiefly been noticed in men. All these symptoms tend but to one conclusion, viz., that the furunculoid, like all other epidemics, is attended by a deficiency of power in the system. The worst case of carbuncle I have yet met with occurred in a lady, whose strength had been reduced by long anxiety, reverses, and misfortunes, and want of sufficient nourishment. The poor and ill-fed have been the most frequent, as well as the most severe sufferers; and a medical gentleman who is largely engaged in practice among the higher classes has recently assured me that he was not aware of the existence of any epidemic, and that he certainly had not observed a more than average number of carbuncles and boils among his own patients. Like all other epidemics (which usually spend their strength upon the asthenic portion of society), this affection does occasionally attack persons well fed and apparently in the full tide of health and strength. And it is worthy of observation that medical men, who usually appear to be exempted, as if by a special providence, from many contagious influences, yet seem to have been frequently selected as the victims of this disease; and in one lamented instance a carbuncle proved fatal to a practitioner in Dalston Terrace. I have not, however, been able to trace any proof of contagion in this epidemic. On the contrary, I can call to mind very few instances in which it has occurred simultaneously, or even consecutively, in a plurality of persons in the same household. In large schools, I believe, about twenty per cent. only have been attacked.

With regard to the statistics of the disease, it is impossible to form any estimate of the number of persons attacked in proportion to the population; but among the patients treated at the Western Dispensary for Diseases of the Skin, I find that twenty-one per cent. have been more or less affected with the epidemic in some one or other of its various forms. Two per cent. were attacked with

carbuncles, eight per cent. with boils, nine per cent. with pustules, and two per cent. with subcutaneous abscesses. The onychian form of the disease seems to have disappeared, and to have given place to those pustular tumours of the eyelids called styes.

The geographical extent of the epidemic is one of its most extraordinary features. I have traced it to every part of the metropolis: to Oxford, Cambridge, Bath, Bristol, Manchester, and other cities and towns of England; to North and South Wales, to the northern coast of Kent, to the southern coast of Hampshire, and to the Isle of Wight. Reports have reached us of its prevalence in Ireland and Scotland, in France and in Austria, in both the East and West Indies, in the city of Philadelphia, and at the Cape of Good Hope. Literary notices of the epidemic may be found scattered in nearly all the medical periodicals, both British and foreign; and what is most singular, it appears to have broken out in the four quarters of the globe at one and the same time, and to have been influenced in its rise, progress, and decline by one universal cause.

Mr. Hunt also read a paper On the Epidemic, before the Epidemiological Society (July 5, 1852), in which we find some additional facts. He first described the epidemic as he had seen it in his own practice, and then alluded to the historical notices of its existence to be found in the periodicals, and to the accounts which had reached him in various ways from all parts of the world; from which it appeared, that it had occurred simultaneously in the four quarters of the globe.

He then endeavoured to trace the progress of the disease by the exhibition of tables, showing the deaths from carbuncle in the metropolitan districts, extracted from the annual and weekly reports of the Registrar-General for the last twelve years, from which appeared the following very remarkable results:—

Deaths from Carbuncle in the Metropolitan Districts from 1840 *to Midsummer,* 1852.

1840, 1841, 1842, 1843	Average 3½ per annum.
1844, 1845, 1846, 1847	Ditto 8 "
1848, 1849, 1850, 1851	Ditto 18 "
Last quarter of 1851, 9 deaths . . .	Rate 36 "
First " 1852, 16 " . . .	Do. 64 "
Second " 1852, 5 " . . .	Do. 20 "

Single Years.		*Single Months,* 1852.	
In 1846 were registered	3 deaths.	In January were registered	8 deaths.
In 1847 "	15 "	In February "	4 "
In 1848 "	20 "	In March "	4 "
In 1849 "	15 "	In April "	3 "
In 1850 "	19 "	In May "	none.
In 1851 "	19 "	In June "	2 deaths.
In 1852 (Six months)	21 "		

These tables show that the deaths from carbuncle have been doubled every four years since 1840, and that the increase commenced rather suddenly, so early as the year 1847. The epidemic, appears, therefore, to have existed in London four years, and to have arrived at its full height, in January, 1852. Other diseases tending to pustulation, and superficial suppuration, were shown to have also prevailed in the most extraordinary degree. Thus the deaths from phlegmon were reported to have nearly trebled their usual numbers during the last few years; and the fatality from smallpox, a pustular disease, to have been likewise nearly trebled of late; in the years 1840, 1841, 1842, and 1843, having averaged 771 per annum; and in the last three months, amounting to 472, or at the rate of 1,888 per annum.

Mr. Hunt expressed his belief in the existence of some analogy between the two epidemics, which he could not attempt to explain. He concluded by suggesting a mode of fortifying the system from the invasion of the carbuncular cachexy.—*Medical Times and Gazette,* Aug. 14, 1852.

36. *Epidemic of Carbuncular Inflammation of the Lip.*—It is stated in the *Lancet* (Aug. 21, 1852), that "An epidemic of carbuncular inflammation of the upper lip has been reigning for some time past, and the disease has proved in some instances extremely severe, and even fatal. Cases of this affection have occurred in various hospitals, but it would appear that by far the larger portion have been admitted into St. Bartholomew's Hospital. It is worthy of remark that the number of cases of common carbuncle is not in the least diminished by the above-mentioned epidemic—indeed, they seem to have greatly increased. The size of the sores is here and there enormous (as large as a dessert-plate), and the fact obtrudes itself upon the observer, that there is now reigning one and the same epidemic, attacking either the nape of the neck or the upper lip.

"It is particularly to the latter affection that we wish to draw attention, for we are not aware that it has been described by surgical writers. Indeed, when it was first observed at St. Bartholomew's Hospital, the general impression was, that it depended on some local irritation, or was the result of some noxious influence connected with the patient's trade. But no such idea can now be entertained, for the numerous cases which present themselves all point to a generally diffused epidemic action. Of what nature the poison may be, is, however, somewhat difficult to discover; but one fact should nevertheless be noticed—viz., the recurrence of the epidemic at the hot season of the year, and also the circumstance that the cases have been far more numerous this very hot summer than they were last year, when the temperature was uniformly lower.

"It would be interesting to ascertain whether cases of this kind have been at all observed in private practice among the middle and higher classes of society, in order to determine whether the great heat, *combined* with the effects of unhealthy dwellings or trades, is the chief agent in the production of the pathological phenomena to which we are alluding.

We know of one case, in which the subject was a surgeon, whose symptoms were very severe. The patient was under the care of Mr. Wormald, and recovered completely. Free incisions and stimulants formed the principal features of the treatment.

The cases have been so numerous at this hospital, that we shall not attempt to particularize them—indeed, the symptoms were very much of the same nature in all instances, the difference lying principally in the more or less intensity. The principal phenomenon presented is an enormous swelling of the upper lip, arising gradually from a pustule, which springs up at some part of the upper lip. The heat, pain, and redness do not keep pace with the œdema, which latter is the most striking symptom. This is generally carried so far, that the whole face becomes frightfully swollen, as is seen in the worst cases of erysipelas. Such distension and infiltration must necessarily be followed by sloughing of the cellular tissue: and this change is made very evident by the aspect of the parts after the incisions, which are generally made through the œdematous textures. The fever which accompanies these severe local symptoms is generally of the typhoid type, and so much so that support is clearly indicated. We shall just sketch a few of the cases which have come under our cognizance:—

Henry F——, aged nineteen years, a robust young man of fair complexion, and a copper-founder by trade, was admitted into Darker ward, June 17, 1852. The patient has always been very moderate in his habits; and being suddenly seized with pain and swelling in the upper lip, he presented himself to Mr. Wormald as an out-patient, three days before his admission into the hospital. Mr. Wormald made a free incision into the already considerably swollen parts, which procedure was followed by a good deal of bleeding. The affection had begun by a small boil in the lower part of the groove of the upper lip. As the pain and swelling went on increasing, the boy was taken into the hospital.

The whole of the upper lip was at that period enormously swollen, as well as the right side of the face, the whole being brawny and hard; the eye was closed, and the patient could hardly speak. The thickness of the tissues about the lip and face is certainly increased fourfold, and the aspect of the countenance

is frightful. The tongue cannot be protruded, the pulse is small and frequent, the skin hot, the secretions scanty, and no sleep can be obtained.

Mr. Stanley made several incisions in various directions, and gave exit to some purulent matter and blood; Dover's powder was given at night, acetate of ammonia in the day, and several ounces of wine.

In spite, however, of repeated incisions, and plentiful support, the patient became daily worse, and died four days after admission. On a *post-mortem* examination, purulent deposits were found in the lungs, and extensive adhesions of the pleura.

Second Case; illustrating the mild variety.—James P——, aged nineteen years, of fair complexion, a stay-cutter by trade, and who has lived rather freely, was admitted into Colston ward, June 17, 1852, under the care of Mr. Lloyd. Two days before admission, the patient noticed a pustular elevation upon the upper lip, on the right side, and the whole of that half of the face swelled considerably in the space of three hours. He did not experience much pain, but the tension of the parts was very disagreeable. As the size of the lip and face, as well as the pain, went on increasing, the young man applied to the hospital.

On examination, the whole of the right side of the face was found œdematous, hard, pale-red, and glossy; the lip everted, and increased to about three times its natural size. The patient does not experience very much pain, except when the parts are pressed. The constitutional disturbance is not so great as in the preceding case; the tongue is clean, and the pulse 90, with tolerable power. Leeches, fomentations, and poultices were used in this case. Internally, the patient took the acetate of ammonia mixture, and mild purgatives. The symptoms were gradually subdued by the further use of leeches. Wine was allowed, and in the course of a fortnight the patient had quite recovered.

Third Case; illustrating the very simple variety.—Edward B——, aged sixteen years, a healthy, intelligent boy, following the occupation of silkmercer's porter, was admitted June 17, 1852, into Kenton ward, under the care of Mr. Stanley. None of the above-mentioned patients, nor this boy, remember any irritating substance coming in contact with their lips. Two days before admission this patient noticed a little pustule on the groove of the upper lip, just above the red margin; the part swelled rapidly, and no sleep could be obtained. The pain was not very severe, but great inconvenience was experienced from the œdematous state of the lip and face.

When admitted, these parts were about twice their natural size, hard, red, painful, and brawny. The tongue was *clean;* the pulse 90, but with no power; the skin rather hot, but somewhat moist. Mr. Langdon, Mr. Stanley's house-surgeon, made a transverse incision across the red part of the lip, which yielded about half an ounce of pus, and soon afterwards the surfaces of the wound looked sloughy. A poultice was applied on the lip and face, and with very simple treatment, composed of light purgatives, broth, &c., the boy quickly recovered, and left the hospital five days after his admission.

It will be perceived that these three patients were received into the hospital on the same day: and since that period cases of this kind have been frequently admitted. The fatal issue has, however, been the exception, and recovery the rule. There is now in Darker ward, under the care of Mr. Stanley, a young man, about twenty-four years of age, presenting exactly the same symptoms as have been described of the first of the preceding cases; he is being treated in the same manner, but his recovery is doubtful.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

37. *Are Primary or Secondary Amputations to be preferred?*—Mr. G. J. Guthrie, the distinguished Army surgeon, in a recent lecture on some of the more import-

ant points in Surgery (*Lancet*, May 1, 1852), discusses the question at what distance of time after the receipt of an injury can amputation be performed most advantageously to the patient. His long and extensive experience and discriminating judgment entitle his opinions to great weight, and we, therefore, transfer to our pages his remarks on the subject:—

40. When the wound of an extremity is of so serious a nature as to preclude all hope of saving it by scientific treatment, that limb should be amputated as soon as possible.

41. An amputation of the upper extremity may almost always be done from the shoulder-joint downwards, without much risk to life, and, when necessary, the sooner it is done the better.

42. An amputation of any part of the lower extremity below the knee downwards may be done forthwith, with nearly an equal chance of freedom from any immediate danger, as of the upper extremity at or near the shoulder-joint.

43. It is otherwise with amputations above the middle of the thigh, and up to the hip-joint. They are always attended by considerable danger.

44. There can be no doubt that if the knife of the surgeon could in all cases follow the ball of the enemy, or the wheel of a railway carriage, and make a clean good stump instead of leaving a contused and ragged wound, it would be greatly to the advantage of the sufferer; but as this cannot be, and an approach to it even can rarely take place, the question naturally recurs: At what distance of time after the receipt of the injury or accident can the operation be performed most advantageously for the patient?

45. In order to answer this question distinctly, it should be considered with reference to two distinct states of injury:—

1st. When injuries require amputation of the arm below the shoulder-joint, or of the leg below the knee, these operations may be done at any time from the moment of infliction until the expiration of twelve or twenty-four hours, without any detriment being sustained by the sufferer with regard to his recovery; although every one, under such circumstances, must be desirous to have the operation over. The surgeon having several equally serious cases of injury of the head or trunk brought to him at the same time as too requiring amputation, may defer them more safely perhaps than the assistance he is also called upon to give to the other cases, the postponement of which may be attended with greater danger.

2d. This state embraces those great injuries, in which the shoulder is carried away with some injury to the trunk, or the thigh is torn off at or above its middle, rendering an amputation of the upper third or at the hip-joint necessary; and it is this or nearly this state which alone implies a doubt as to the propriety of immediate amputation, and demands further investigation. It is the state to which your attention is earnestly drawn for future observation.

46. It has been implied, if not actually maintained, that a man could have his thigh carried away by a cannon-shot without being fully aware of it, or, if aware of it, that it did not cause much alarm—in fact, that it did not materially signify, as to his apprehension, whether the ball took off his limb or the tail of his coat, or only grazed his breeches. An instance of this kind has not fallen under my observation.

47. A surgeon on a field of battle can rarely have a patient brought to him, requiring amputation, under less time than from a quarter to half an hour; a surgeon in a ship may see his patient in less than five minutes after the receipt of the injury; and to the surgeons of the navy we must hereafter defer for their testimony as to the absence or presence of any constitutional alarm and shock; and, if they occur, to what degree do they follow immediately after the receipt of such injury? The question must not be incumbered and mystified by a reference to all sorts of amputations after all sorts of injuries, but to the one especial injury—viz. that of the *upper half of the thigh*.

48. My experience, which may be erroneous, like everything human, has taught me, that when a thigh is torn or nearly torn off, by a cannon-shot, there is always more or less loss of blood, suddenly discharged, and which soon ceases in death, or in a state approaching to syncope. When the great artery is torn, this fainting saves life, for an artery of the magnitude of the common femoral

does not close its canal by retracting and contracting, as a smaller vessel does; it can only diminish it; and the formation of an external coagulum is necessary to preserve life, which the shock, alarm, and fainting, by taking off the force of the circulation, aid in forming; and without which the patient would bleed to death. An amputation, in this state of extreme depression, might destroy life.

49. If the cannon-shot, or other instrument capable of crushing the upper part of the thigh, should not divide the principal artery, and the sufferer should not bleed, it is possible he may be in the state alluded to, in which the patient, for he may not be called sufferer, is said to be just as composed as if he had only lost a portion of his breeches. Nevertheless, few have seen a man lose even a piece of his breeches by a cannon-shot, without perceiving that he was indisputably frightened.

50. Whilst some persons, under the loss of a limb high up, are reduced to a state of syncope, or nearly approaching to it, which renders them almost, or even entirely, speechless; others suffer extreme pain, and earnestly entreat assistance, under which circumstances, amputation should be performed forthwith. In the former, the administration of stimulants may render the operation less immediately dangerous.

51. Chloroform, or other similar remedies, may produce an effect in such cases yet unknown. Its careful administration may not destroy the ebbing powers of life, and may render an amputation practicable, which could not otherwise be performed without the greatest danger. It may be otherwise; the point, however, is to be ascertained, although in all cases of great suffering its use should be unhesitatingly adopted.

52. When the sufferer is brought to the surgeon at the end of half an hour, having lost a limb below the thigh or shoulder, by a cannot-shot, he will often be found in a state of such great depression as to be likely to be destroyed by the infliction of a serious and painful operation like amputation. This has occurred to me so often as to induce me to recommend delay for five, six, or even eight hours, if the unfortunate person did not suffer much, and appeared likely to be revived by the proper use of stimulants.

53. This recommendation originated from the fact, that as one seriously wounded man has as much claim as another to the attention of the surgeon, all could not be attended to at the same time; and the success following the deferred cases of amputation was as great, if not greater, than in those on which the operation was more immediately performed.

54. The advantageous results of *primary* amputations, or those done within the first twenty-four or at most forty-eight hours, over *secondary* amputations, or those done at the end of several days, or three or four weeks, has been so firmly and fully established as to admit no longer of dispute.

55. When an amputation is deferred to the secondary period, a joint is often lost. A leg which might have been cut off below the knee in the first instance, is frequently obliged to be removed above the knee when done in the second.

56. In the secondary period after great injuries, the areolar and muscular textures near the part injured are often unhealthy, the bones are in many instances inflamed internally, and their periosteal membranes deposit on the surrounding parts so much new ossific matter as frequently to envelop in a few days the ligatures on the vessels, and render them immovable, necrosis of the extremity of the bone following as a necessary consequence, protracting the cure for months.

57. Sloughing of the stump, accompanied by inflammation of the vein or veins leading to the cava, frequently take place. This state of stump is often followed by purulent deposits in and upon the different viscera, and principally in the cavities of the chest. Where febrile diseases are endemic, they often prevail; the constitutional irritation is great; the stumps do not unite, or open out if apparently united, and slough, and frequently after a few days implicate the veins.

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38. *On the Surgical Operations usually adopted for Retention of Urine.*—The treatment of stricture of the urethra often presents so many difficulties, and

there is such diversity of opinion among surgeons as to the best course of procedure, that we are induced to present to our readers an abstract of a paper on this subject, recently read before the Royal Medical and Chirurgical Society, by EDWARD COCK, Esq., with a report of the discussion to which it gave rise, and which furnishes the opinion of some of the most eminent of the London surgeons in relation to the matter.

The author first dwelt on the difficulties which surround the question of what course should be pursued in those cases where an old chronic indurated stricture, recently closed by inflammation and congestion, defies all attempts to pass a catheter, and upon the failure which frequently attends the attempts of the surgeon to relieve such cases by the introduction of sounds, catheters, or bougies. He points out the three modes to which recourse may be had, when the urgency of the symptoms renders some decided interference necessary. First, that of forced catheterism; second, that of opening the urethra in the perineum behind the stricture; third, that of puncture of the bladder. There is nothing new in either of these measures for relieving retention. They may each possess certain advantages, and the circumstances of the case, and the condition in which we may be placed, may incline us to the adoption of either the one or the other. They have all their drawbacks; but, on the whole, the author is disposed to believe that the bladder may be reached with the smallest amount of pain, with the least risk of present or future danger, and with the greatest prospect of ulterior good, by puncture through the rectum. The first of these operations the author regards as in reality a mode of puncturing the bladder with a blunt instrument, tunnelling through the perineum under cover of the urethra; and he believes that the stricture is, in the majority of such cases, neither forced nor crushed, but that a new passage is made outside the urethra, which may either re-enter the urethra, or continue its course through the prostate into the bladder. The urgent symptoms may be thus relieved, but the after condition of the patient is not bettered, and it may be rendered even worse. The second operation of section of the perineum, the author thinks, is, when dexterously and successfully performed, preferable to forcible catheterism. The urine may be allowed to flow by the new channel, until the urethra has had time to recover itself from the injuries it may have sustained by previous manipulation, or from the irritation caused by the continual pressure of the contents of the bladder. But unfortunately the difficulties are often so great, in long-standing disease of the perineum, that the urethra cannot be reached, and great mischief, or even death, may result from the protracted operation. The author describes the proposed modification of this practice, called "cure of stricture by division," of which the principle consists in uniting the upper and lower permeable portions of the urethra by the division of the intermediate impermeable portion, and thus restoring the integrity of the canal. This, however, he thinks, is very rarely carried out; and that very often death is caused unmistakably from the injuries sustained during the operation. So convinced is the author, by experience and observation, of the difficulty which frequently attends the operation of opening the urethra behind the stricture, where the landmarks which should guide us are obliterated, that he has of late years abandoned the operation of incising the perineum, with a fixed determination to reach the bladder. In those cases where retention and extravasation render it necessary that an outlet should be afforded to the contents of the bladder through the perineum, he limits himself to making a free incision down to the region where the urethra may be supposed to be situated; and if he cannot then gently introduce a catheter through the wound into the bladder, he does not proceed any farther; and he has generally found that, the urine has speedily found its way through the wound. With regard to the third mode of relieving the bladder, by puncture, the author brings forward cases to show puncture by the rectum safe and simple. Forty cases of operation by the rectum are related. In all of these, the operation was entirely successful, so far as the relief and the absence of any ill consequences from it were concerned. Seven deaths occurred, from various causes connected with the previous sufferings of the patients, as diseased kidneys, inflamed bladder, &c. In many cases, the author believes the operation to have materially tended to the restoration of the

patient, with a less amount of suffering, and at the same time more speedily and effectually, than could have been effected in any other way.

Mr. Solly concurred in opinion with Mr. Cock, that the operation described in the paper was a most valuable one in certain cases. He (Mr. Solly) had heard Mr. Cock describe it years ago, and had himself since performed it several times with success. He considered that this operation was one of the least dangerous that could be performed in cases of retention of urine from stricture. Cases, of course, occurred in which cutting down upon the urethra was advisable—as when the stricture was of traumatic origin; but where the canal had been much damaged, and where false passages existed, the operation of puncturing the rectum was the most advisable.

Mr. Arnott said, that although he was unable to speak in the same unqualified terms of approbation as the author of the paper and Mr. Solly had done, of the operation of puncturing the bladder through the rectum, he was yet able to add his testimony generally in its favour from a personal experience of five cases in which he had resorted to it. He considered that the Society was indebted to Mr. Cock for having brought the present collection of cases before it. He (Mr. Arnott) had only performed this operation in cases of retention of urine supervening on permanent stricture, when other means of relief had failed. But having witnessed incidentally its advantages in facilitating the subsequent treatment of the stricture which had rendered the operation necessary, he was prepared to receive with favour the suggestion to resort to it occasionally in the treatment of that disease. Before, however, he proceeded further in his remarks on this operation, he wished to observe that he thought Mr. Cock had expressed himself with too much severity with regard to the operation of what was called forcing the stricture, and also in regard to the operation of opening the urethra behind the stricture. Both of these proceedings, properly performed in suitable cases, were justifiable and safe. The operation of forcing a stricture was not so severe a proceeding as puncturing the bladder from the rectum, and it had some advantages. Indeed, if he had the misfortune to suffer from retention of urine as a consequence of stricture, he should, if in the hands of a competent surgeon, prefer that the stricture should be attempted to be forced before any opening should be made in the urethra behind the stricture, or the bladder be punctured through the rectum. What he wished to convey by the operation being "properly performed" was this, that if, upon trying to urge the catheter through the stricture, the urethra itself should give way, and be perforated, then that the proceeding should be immediately abandoned. So also with respect to opening the urethra behind the stricture; the best mode was not that usually performed, of cutting from the surface or skin inwards, but by putting the forefinger of the left hand into the anus, so as to depress it; then to introduce the point of a bistoury slightly curved just in front of the anus, and carry it directly inwards so as to strike the membranous part of the urethra; and then holding the instrument outwards, to divide all the superjacent parts. He (Mr. Arnott) had first seen this mode of procedure resorted to by the late Sir Charles Bell twenty years ago, and had frequently since successfully performed it. If in the operation you missed the urethra, then the operation of puncturing the bladder could be resorted to. With reference to the last operation, which had been employed at the Middlesex Hospital, he had not found it so entirely destitute of disadvantage as had Mr. Cock. Of the five cases in which he had employed it, one patient died, and on examination an abscess was found between the bladder and rectum in the track of the canula. Effusion of urine in this situation was a danger to be dreaded, and he had expected that it would have occurred in some of Mr. Cock's cases; and, gratified as he was at hearing the short abstracts of some of them read, he should like to look over the details of the whole before he could satisfy himself that the danger was not real. He could, perhaps, illustrate his views with respect to the different operations, by relating a case in which he had performed all of them in the course of a quarter of an hour on the same patient. In 1844, he was called one morning to an officer of Engineers, who had retention of urine from stricture, and who had had a similar attack some years before. The patient was six feet six inches in height, of large frame, and, being partially palsied on one side, was very cum-

brous to move. An unsuccessful attempt was made to introduce an instrument into the bladder. Large and repeated doses of laudanum, both by the mouth and rectum, were exhibited at short intervals, and a fresh attempt to pass a catheter was made at the end of some hours, but again without success. A small quantity of water had, however, dribbled away. The patient was now purged, cupped in the perineum, &c. On the following day, the quantity of urine passed was not considerable, yet the relief was such as to lead him (Mr. Arnott) to suppose that the difficulty of the case had been got over. On the following morning early, however, he was again summoned to the patient, and found that he had passed no water since the preceding afternoon; the bladder reached half-way up to the umbilicus, and he was greatly distressed. The case now admitted of no delay, and he accordingly attempted to force the stricture, but the urethra gave way, and the catheter was at once laid aside. He (Mr. Arnott) explained to the patient's brother, a physician, that he would now endeavour to open the urethra behind the stricture, an operation in which, in these cases, he had generally succeeded; but in the present instance he did not feel so confident, as there had not been much previous suffering from the stricture, or strain upon the parts, so that the urethra, posterior to the stricture, might not be dilated. If he failed in the attempt, he should then puncture the bladder through the rectum. The attempt to lay open the membranous part of the urethra was made in the way already described, but the urethra was not struck. The bladder was then immediately punctured through the rectum. He (Mr. Arnott) saw the patient twice during the day, when the urine was flowing freely through the canula; but the next day he was called to him again, and learnt that on the previous afternoon the canula had got displaced—it was, in fact, out of the bladder; and that no urine had passed either way since. The bladder was now full, and after a short and unsuccessful attempt to pass a catheter by the urethra, the bladder was again punctured through the rectum; the canula was kept in sixteen days, when an instrument was got through the urethra into the bladder; the case did well, and the patient was still living. In one instance it appears that Mr. Cock had failed to reach the bladder in the attempt to puncture it through the rectum, but failure to strike the bladder was not confined to puncture in this situation. Mr. Arnott had twice witnessed, in the hands of a very able surgeon, the bladder missed in the attempt to puncture it above the pubes; in one of these cases the trocar was reintroduced, and with success; he might add that both cases recovered.

Mr. Coulson said it was clear from the facts detailed in the paper that the operation of puncturing the bladder by the rectum was easy and safe of performance, but he was not equally convinced that the operation ought to be performed in cases like those mentioned by the author. Puncturing the bladder by the rectum for retention had never been very generally resorted to, because it left the condition on which the retention depended untouched. The late Mr. Liston, in his "Operative Surgery," says that he never performed the operation in question, and spoke in no measured terms of those who had recourse to it. In some of Mr. Cock's cases the catheter had been introduced not long prior to the operation, and he could not understand why it had not been retained in the bladder, and the operation of puncturing dispensed with. In one or more cases there was extravasation of urine, and he (Mr. Coulson) thought that the free and deep incisions in the perineum which were necessary to give relief to the extravasated urine would also have been a sufficient outlet for the urine from the bladder. Again, the author had recommended the operation on the ground that by the withdrawal of the urine from the urethra the stricture would yield; but it was delusive to expect this to be the result in all cases. He had punctured the bladder by the rectum in an urgent case of retention, dependent on an impermeable stricture of the urethra; at the end of three or four days the canula slipped out, and retention again occurred. The stricture was in the same position as before the operation, and was then successfully divided by the lancetted stilet. The conclusions which he (Mr. Coulson) arrived at were, that if the smallest instrument, like one of Mr. Symes's staffs, could be introduced through the stricture, it would be better to divide the stricture from without, and thus remove the cause of the complaint. If the stricture was so great that nothing

could be introduced through it, then he would prefer passing a grooved staff down to the stricture, making an opening into the perineum beyond the contracted part, passing a strong, straight director with a deep groove in the median line between the urethra and rectum, and passing a straight bistoury some way along the groove, and then cut outwards and upwards towards the staff which had been first introduced. Except, therefore, under the most urgent circumstances, scarcely admitting of the delay requisite for the performance of these operations, he did not think the measure which had been recommended by the author for retention of urine from stricture should be adopted.

Mr. Solly observed that Mr. Liston, before his death, altered his opinion as regarded this operation, as he (Mr. Solly) was present when that distinguished surgeon performed it, a few months before he died.

Mr. De Morgan said that he had not perused all the cases detailed by Mr. Cock, but they all supported the same views, and showed that the operations did not, as Mr. Coulson had remarked, remove the cause of the retention. In all operations, however, proposed for the relief of stricture, the urine, after a time, passed more or less by the natural passage, similar to what was observed in some cases lately read to the Society, of stricture of the colon, in which, some time after an operation had been performed for their relief, the feces began to pass through the intestine, and take their natural course. The operation, therefore, of puncturing the bladder in cases of stricture, was to some extent a curative agent as regarded the obstruction.

Mr. Curling had given his best attention to the cases which had been briefly detailed in Mr. Cock's paper. As far as he could judge, he had no objection to make to the puncture of the bladder in the instances cited. In the second case, it did not seem quite clear whether the abscess in the perineum existed at the time of the operation or had formed afterwards; but he did not believe that so excellent and experienced a surgeon as Mr. Cock would venture to puncture the bladder by the rectum in a case of retention of urine with perineal abscess. He would relieve the patients by a free opening at the part. Mr. Curling agreed with the author of the paper, that the operation was more free from risk than was generally supposed; and in giving it the preference of forced catheterism, he was quite sure that Mr. Cock, in treating of the latter proceeding, did not object to the perforation of a stricture by the skilful use of the catheter, but to the violence inflicted when the instrument was driven out of the passage, the course of which, in its progress to the bladder, had been so graphically described in the paper. Still, he was surprised to find that Mr. Cock had to puncture the bladder in so many instances at the hospital of which he was surgeon. At the London Hospital, cases of retention of urine were of very common occurrence amongst the dissolute population in the neighbourhood, and no less than 146 cases had been admitted in the past year; yet this operation was very rarely performed, and he did not believe the bladder had been punctured a dozen times during the past twelve years. He attributed this to the remarkable success attending the general treatment without instruments, by means well known to the Fellows of the Society. After the retention had been relieved in this way, and the local irritation had subsided, the cure of the stricture could then be conducted with as much advantage as after the bladder had been punctured by the rectum. In the very few cases in which he had found it necessary to operate, he had punctured the bladder above the pubes, which he believed was as simple and as free from danger as the puncture by the rectum.

Mr. Gay, from the experience he had had of the practice of puncturing the bladder from the rectum, could give it his unqualified support, but in a certain class of cases only, viz., those in which spasm and inflammation suddenly supervened in old stricture, and retention, with all its evils, followed. Amongst the cases detailed in Mr. Cock's interesting paper, he had not been able to detect many of this kind. It was now six years ago that he (Mr. Gay) was called to see an old gentleman labouring under the severest symptoms arising from retention. He had suffered from stricture for years; and the day before, in consequence of a debauch and exposure to cold, he found himself unable to pass his urine. Many futile attempts had been made to introduce a catheter, by which the urethra had become seriously lacerated. Hot baths, leeches, and opium,

had also been employed; and it was not until the symptoms of constitutional irritation had reached a fearful height that his assistance was called for. Under these circumstances, he thought it unwise to interfere further with the urethra in any part of its course, but to attend to what was infinitely more urgent, viz., the over-distended state of the bladder. Notwithstanding the bad odour into which the operation of puncturing by the rectum had fallen, he (Mr. Gay) determined, though not without much anxiety as to the results, to perform the operation. It was followed by great and immediate relief; and a further employment of palliative remedies to the urethra caused the spasm and inflammation to be so far reduced by the following day, that the old gentleman began again to pass his urine by the natural channel. In a few days more he was convalescent, and nothing was heard whatever of the wound of the bladder made in the operation. Mr. Gay thought the state of the urethra, in such cases, and under such a conjunction of circumstances, to be of all others most unfavourable to catheterism; and from the results of this case, and others which had since fallen under his observation, he did not hesitate to recommend the evacuation of the bladder by these means, whenever that viscus might become so distended as to occasion severe constitutional and local irritation. He had punctured the bladder since in four or five other cases; and so convinced was he of the comparative innocence of the procedure, that he had on one occasion had recourse to it three days following, and this without any bad results. The palliative local treatment of these cases appeared to be more successful after the bladder was emptied, than if employed during its distension, and generally resulted in the patient's being able to void his urine in the course of twenty-four or forty-eight hours. With regard to another class of cases, in which Mr. Cock had been in the habit of puncturing the bladder, viz., those of chronic and permeable stricture, he (Mr. Gay) had had no experience; but, with Mr. Coulson and Mr. Arnott, he could not see its utility. It appeared to him that the result of this practice was to add to an old stricture the undesirable complication of a fistulous passage behind it, which could by no means be of any service towards curing the original disease. He was of opinion that judicious catheterism might in these cases accomplish as much as could be expected. Mr. Gay felt that on so important and interesting a subject, every surgeon who had had any experience was bound to communicate it, for the purpose of arriving at some really practicable conclusion; and it was this consideration that had led him to make these remarks.

Mr. Hodgson deprecated the employment of such violence as had been described in the use of the catheter for the relief of retention of urine in cases of organic stricture, but advocated the employment of that instrument under such circumstances in a cautious manner. By very long-continued but moderate pressure, the catheter might often be passed, even through long and obstinate strictures; but great patience and perseverance were requisite both on the part of the patient and operator, who should also possess the tact and knowledge to enable him to guide, with his fingers in the perineum, the point of the instrument in the track of the urethra. In the course of his experience he had never found it necessary to have recourse to tapping the bladder, either per anum or above the pubes, for the relief of retention of urine. With regard to the former of these observations, he did not regard it as quite of that simple and harmless nature that had been represented. In cases of old stricture the bladder was often very much thickened and contracted in its coats, and incapable of much distension. This state would render the operation difficult, and in some instances unsuccessful. There was also danger of wounding the vesiculæ seminales. He mentioned an instance in which this was believed to have happened, and the inflammation having extended along the vas deferens produced suppuration of the testicle. In another instance the tube slipped out of the opening in the bladder, and could not be replaced; the patient derived only very little relief from the operation. In his opinion, this operation should only be undertaken by experienced and cautious hands.

Mr. Prescott Hewett would confine himself in his remarks entirely to the question of operating for retention of urine from stricture. He would at once say that the opinion which he had formed was, that few, very few cases of re-

tention of urine from stricture imperatively demanded an operation for their relief, and he was surprised to find that so many cases of this kind had required an operation in one hospital alone during the last few years. Mr. Curling had stated that, in the London Hospital, operations for retention of urine had of late years been of very rare occurrence, but he (Mr. P. Hewett) would go a step further, and say confidently that, for the eighteen years during which he had been connected with St. George's Hospital, not a single instance had occurred in which it was found necessary to resort to an operation for the relief of retention of urine from stricture; and yet, among the large number of cases of this kind yearly admitted into that hospital, were some of a most severe and urgent character. He had necessarily been obliged to operate upon cases of extravasation from rupture of the urethra with retention, which had been brought into the hospital in that condition; but this was altogether a different matter, and one in which the treatment admitted of no doubt. For many years past, at St. George's, long antecedent to his (Mr. Hewett's) going there, cases of retention of urine from stricture had been treated, when catheterism failed, with opium and the warm bath; and for the last eighteen years, to Mr. Prescott Hewett's own knowledge, as already stated, and for some years more, no single instance had arisen where an operation had been required. On one occasion, and on one alone, had he (Mr. P. Hewett) seen even anything like an approach to an operation. In this case the patient, a man of intemperate habits, had been admitted into St. George's Hospital with retention of urine from stricture, and some false passages which had occurred during the repeated attempts at passing a catheter into the bladder. Another attempt to get an instrument into the bladder was cautiously made by the house-surgeon; but, as this failed, a warm bath was ordered, and some laudanum given by the mouth, and under this treatment the patient soon became easier, and then passed a small quantity of water. Shortly afterwards, however, complete retention again recurred; and as no relief appeared to be derived from the treatment, the surgeon of the week was sent for, and another attempt to pass an instrument was again made, but this also proved fruitless. Under these circumstances, as the bladder was getting largely distended, a question arose as to the propriety of tapping this viscus through the rectum; but as the patient, notwithstanding the great distension of the bladder, did not appear to be suffering much, it was ultimately decided that another trial should be made with a full dose of laudanum, two drachms of which were immediately given by the rectum, and within an hour afterwards the patient began once more to pass his water, and gradually emptied the bladder. Let opium be freely given, and from what he had witnessed, Mr. Hewett had no hesitation in stating that an operation in such cases would be very, very rarely indeed required. In conclusion, Mr. Hewett stated that he had never seen any bad effects arise in these cases from the free administration of opium, notwithstanding that he had in some instances given drachm doses every hour for three or four hours consecutively.

Mr. Charles Hawkins thought that there should be further discussion on the important paper before them, for he was not satisfied that it should go forth to the profession that the Society entertained so favourable a view of the operation advocated by Mr. Cock, as the remarks of the preceding speakers would naturally give rise to. He (Mr. Hawkins) was by no means satisfied that cases of stricture generally required the operation to be resorted to, and he must say he had never heard a paper read in that room which had more astonished and surprised him, detailing, as it did, forty cases in which puncture of the bladder had been resorted to, either by the author or his colleagues. Now, he (Mr. Hawkins) had known St. George's Hospital for the last twenty years, and he had never known this operation to be performed there, nor could he learn that it had been resorted to for nearly thirty years. He also knew that surgeons in extensive practice in the West-end of London had found it necessary to have recourse to it only about half a dozen times during the long period of forty years; it was therefore to him most extraordinary that so many cases could be got together from one hospital or from the practice of those connected with it. Indeed, until the remarks of Mr. Curling, he (Mr. Hawkins) imagined that the operation must be peculiar to the other end of London, but it appeared, that

though well placed for bad cases of stricture, the London Hospital could produce no such number. He had been surprised to hear of the advantages of this operation in cases of spasm, for these were surely not the cases in which Mr. Cock recommended it, for he appeared to confine its use to those old cases of permanent stricture where, from constant attacks of retention of urine and its consequences, the kidneys and bladder became diseased, and the life of the patient placed in jeopardy. In such cases, if an operation were required, then that recommended by Mr. Cock, he (Mr. Hawkins) considered the best. He thought, however, that at the present time, when so many plans of treating stricture were being placed before the public, it was most desirable that the Society should not, without due consideration, give its sanction to any particular plan. He hoped that the older and more experienced Fellows of the Society would express their opinions in reference to this operation; with this view he had addressed the Society. It was not that he did not think that, when an operation for the relief of retention of urine became necessary, that recommended by Mr. Cock was perhaps the one attended with least difficulty and followed by fewer bad consequences than any other, but of the results he could say nothing of his own experience. He could call to mind but one case that had come under his own care in which the bladder was punctured for retention of urine. In that instance the operation was successfully performed above the pubis. He had been in the habit of passing an instrument for that patient since, without difficulty. Of course, he did not allude to cases in which an operation had been performed for the cure of stricture, where the obstruction was permanent—usually from accident—and performed not from the immediate relief of retention of urine. He had assisted at operations in about half a dozen of such cases, the urethra being cut into through the perineum. He had certainly been surprised to hear of the great amount of bad surgery which Mr. Cock appeared to have met with, for such did not commonly come under his (Mr. Hawkins's) observation.

Mr. Holt remarked that he entirely concurred in the observations made by both Mr. Curling and Mr. Hewett, and expressed his surprise at the large number of cases in which Mr. Cock had found it necessary to have recourse to an operation for the relief of retention of urine. He had been engaged for the last ten years in endeavouring to procure cases of stricture of the worst possible description, and although a large number of cases of retention of urine in all their varieties had come under his notice, yet he had only had recourse to operative procedure in one instance, the operation consisting in opening the membranous portion of the urethra, which formed an elastic tumour behind the stricture, easily detected and easily punctured. If the ordinary palliative treatment were had recourse to, and the first effort failing, no further attempts to pass a catheter were indulged in, in almost every case the urine would in a few hours escape, and in sufficient quantities to obviate all the urgencies of retention, and in a few days (the parts in the intermediate time having become tranquil) a catheter could, in almost every instance, be passed. Were he called upon to perform any operation, he should have no hesitation in preferring, from its simplicity, facility, and the immediate relief it afforded, that recommended by Mr. Cock. He considered the operation of opening the urethra behind the stricture a most hazardous proceeding, and ought only to be had recourse to in cases where the membranous portion of the urethra could be distinctly felt distended by urine. As a proof of this assertion, he might mention a case in which this operation had been attempted by one of the ablest surgeons of the day, a gentleman of vast experience, and who formed one of the heads of the profession. The patient, from continued disease, died the same evening, and the *post-mortem* examination revealed the urethra completely transfixed, the knife having passed between the bladder and symphysis pubis. Respecting the operation of forced catheterism, he was quite assured Mr. Arnott would not sanction that operation in the common acceptation of the term, or, as recommended by some surgeons, that a catheter should be forced into the bladder *vi et armis*, no matter what strictures intervened. Such a course of proceeding could only be attended with hazardous results, and probably the death of the patient. In conclusion, he felt assured that by patience and proper medical

treatment the cases in which it might be necessary to perform any operation would be very limited.

Mr. Arnott had hoped, in reference to what had fallen from Mr. Holt, that he had sufficiently guarded himself against the supposition that he was in favour of the operation of forcing a catheter into the bladder. He had expressed his opinion, that the attempt to force a stricture was a proper proceeding in certain cases; and he would again state his meaning, which was this—that, with a short silver catheter, gentle but steady pressure should be made on the stricture; if it gave, so much the better; but if the urethra was perforated, as the surgeon would at once be aware of by the sensation communicated to the fingers, and by the bleeding, the catheter should be at once abandoned. He (Mr. Arnott) agreed in the opinions that had been expressed, that the opening of the urethra behind the stricture, in the way in which it was usually performed, by cutting from the skin inwards, was an operation at once difficult, tedious, and uncertain. He had himself experienced these difficulties, and had witnessed them in surgeons of acknowledged eminence. He had also seen the occurrence described by Mr. Holt, of the bladder being opened at the anterior part of its neck. The plan of operating by the curved bistoury was easy of performance and very simple.

Mr. Curling rose to explain that in the cases in which the bladder had been punctured at the London Hospital, he included cases of retention of urine from enlargement of the prostate gland, which had been injured by instruments, and attended with hemorrhage into the bladder. He would also mention a remedy for retention from stricture, which was not applicable to persons of debauched habits and broken down constitutions, but succeeded remarkably well in robust sailors and others. He alluded to the administration of croton oil; as soon as the remedy began to act on the bowels, the patient was able to pass water.

Mr. Solly explained that he recommended the operation in cases of permanent stricture, with enlarged prostate, and where great injury had been committed on the urethra.

Mr. Cock, in reply, said that the operation in question was recommended by him and others as a means to rescue patients from the effects of retention when all others measures had failed. Some misapprehension appeared to have arisen from the number of cases he had brought forward. If his paper had been read in full, it would have been found that only twenty-four cases were his own, and that the others had been furnished by his friends. It might be supposed that he had resorted to this operation rashly. He had not done so, however, and had employed it only as a last resort, except in cases of old, impervious, hard strictures. The cases detailed had extended over many years, having been selected from an immense number of cases of retention of urine. He did not think such severe cases of impermeable stricture were met with at the west-end of the town. He had endeavoured to show that this operation was only to be had recourse to in the severest cases, when every other palliative measure had failed; indeed, he was of opinion that he had used palliatives too long. He had mentioned three modes of proceeding for the relief of retention of urine: the first, by forcible dilatation; the second, by cutting into the urethra between the stricture and prostate, respecting which he explained its deficiencies and dangers, all of which were great, and frequently led to failure; the third, which he had mentioned, without detracting from the utility of the others, as being more simple, less painful, and more likely to succeed. Fistula had been spoken of as a drawback; but he (Mr. Cock) had never known of an instance of this, when the permeability of the urethra had been restored. One of the virtues of the operation was obtaining this persistency as a sort of safety-valve, until a free passage per urethram had been secured; there was often some difficulty in securing its patency until the canal of the urethra allowed the urine to flow through it. Some of the cases which had been read would illustrate this point. There is not a fistula through which urine distils; but when the bladder is distended, the impulse to evacuate its contents ensues, and then the urine is discharged in a gush by the rectum, instead of by the urethra; and it is a great comfort to the patient, after enduring the suffering from such a condition of the urinary organs, to be able to discharge the contents of the bladder in a gush.

There is one other point which he (Mr. Cock) wished to allude to: it seemed to be denied by Mr. Coulson and by Mr. Gay, that relieving this state of those parts places the strictured portion of the urethra in a better condition for a cure to be effected than previously existed. This denial did not accord with the results of his own experience; every operation by means of which the contents of the bladder can be more freely discharged than was previously the case, must sooner or later place the urinary organs in a better condition; the urethra being relieved from the distress and strain upon it, and consequently the induration and other signs of disease gradually lessen and disappear.—*Lancet*, May 1, 1852.

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39. *Treatment of Cancer.*—Alexander Ure, Esq., in an interesting article on cancer (*London Journal of Medicine*, Aug. 1852), says: It may be laid down as an indisputable fact that, in the present state of science, cancer is quite incurable. But is the surgeon, on this account, to abandon the patient entirely to his fate? Certainly not; he may palliate where he cannot cure.

The plan chiefly resorted to for the removal of external cancers is the operation by the knife. This expedient ought only to be adopted where the surgeon has a well-grounded hope of abating the suffering without shortening the life of the patient; otherwise it is unjustifiable. Many condemn the operation, without taking into account the relief which it frequently affords. It is no uncommon thing to see patients from whom a cancer has been opportunely extirpated, recover a healthful complexion, regain their strength and spirits, and cease to suffer for several years. Even in less successful cases, that is, where life has not been apparently prolonged, the patients have been exempted from a painful, a loathsome, and a lingering death. Moreover, if there be good reason to believe that the local malady, in proportion as it gains ground, increases the tendency to infection of the system, it is evident that a patient who has undergone the operation is in nearly the same condition as an individual simply predisposed, and without any manifest cancerous development.

The surgeon, therefore, may conscientiously operate, when there is a clear prospect of removing the whole of the adventitious structure; when the disease is established, and making distinct progress, and the pain very distressing. Scirrhous tumours are less prone to relapse at an early period than those of the encephaloid type. The operation is contraindicated when well-marked signs of cancerous cachexia are present, and when other tumours are perceived at some distance from the original seat of the malady. If the breast be the organ affected, an operation is objectionable, when the tumour is adherent to the skin or to the walls of the chest, when the nipple is retracted, and when the lymphatic glands, more especially those near the clavicle, are implicated in the disease.

One would be less disposed to operate on a person stricken in years than on one at a less advanced period of life; and, although it is in general advisable not to delay the operation, still, an exception may be made in the case where the patient suffers scarcely any inconvenience, where the progress of the tumour is very slow, and there is no obvious tendency to spread by radiation.

In performing the operation, the fundamental rule is to remove every portion of the diseased structure, and to insure this, the whole extent of the wound ought to be carefully searched, in order that none be left. Whenever practicable, it is important that the edges of the wound be brought into direct apposition, and thus retained, so as to procure immediate union. After the wound is healed, the application of collodion is useful in promoting the contraction and prompt consolidation of the cicatrix. It likewise shields the tender cuticle from the air, and from risk of abrasion. With this view the collodion is to be pencilled over the surface, twice or thrice a week regularly for some time. I was led to adopt the practice from observing that patients very often feel uneasiness in the cicatrix on change of weather, and also that secondary cancerous deposits are frequently met with in that situation. Hence the propriety of obviating every source of local uneasiness or pain in individuals of a cancerous habit.

As a general rule, excision is the most eligible mode of extirpating cancer-

ous tumors. The operation, moreover, since the introduction of chloroform, is without pain. Nevertheless, the surgeon will occasionally meet with cases in which the employment of the knife is inadmissible, or where, if admissible, the patient refuses to submit to it. Under such circumstances, resort may be had to the escharotic plan of treatment, provided the disease be circumscribed. One of the most efficient escharotics is the chloride of zinc. Its application, however, is attended with much pain. Several years ago, in some researches on cancer, published in the *Medical Gazette*, I pointed attention to the fact that chloride of zinc has a remarkable affinity for albumen, and, in virtue of this affinity, sought to explain its action when placed in contact with cancerous growths, which are composed in a great measure of that proximate element. Chloride of zinc is indeed a most energetic caustic, and requires to be employed with discretion. Full instructions respecting the manner of applying it are given in an article of mine on "Caustics and Cauterization," which I published in the *Cyclopædia of Surgery*. It is especially useful in the instance of cancerous sores, accompanied with bleeding fungosities and fetid ichorous discharge. Ulcers of this nature, "the mere despair of surgery," have thus been brought to cicatrize. Although the cure be but fleeting, still, a few months of calm and apparent health are no little boon to a patient so circumstanced.

I have likewise employed quicklime as a caustic with good effect. It keeps up a kind of smouldering heat in the part. It is slower in its action, but productive of much less pain than the chloride of zinc.

With regard to general treatment, I would briefly observe, that the leading indication is to support the strength of the patient. M. Andral ascertained that one of the most constant effects of cancer, when it has lasted for some time, is a decrease of the globules of the blood.* Now this is precisely what occurs in exhausting diseases. For this reason, all measures of depletion ought to be avoided, or used with the utmost reserve, should any inflammatory ailment supervene. Benefit has been derived occasionally from the administration of cod-liver oil, alternated with chalybeates, should there be any tendency to anæmia.

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40. *Excision of Cancer.*—Dr. W. H. Walshe, in a clinical lecture (*Medical Times and Gazette*, Aug. 28, 1852), remarks: "As concerns excision, all I have seen within the last ten years but confirms the inference to which I was formerly led by the fair examination of facts, namely, that the operation neither cures the disease, nor even prolongs life, except in instances so rare, that they can scarcely be assigned a numerical value."

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41. *Treatment of Lupus Exedens.*—The following case is reported in the *Medical Times and Gazette* (August 7, 1852), as illustrating the treatment pursued by Mr. Startin in the Hospital for diseases of the skin.

On February 25, 1852, Emma Munday, aged 25, of light complexion, was admitted as an out-patient, under the care of Mr. Startin. For eight years past she had suffered from the eroding form of lupus on the tip and left ala of her nose, both of which parts were considerably destroyed. The ulcer had ragged, firm edges, and was surrounded by flat, indurated tubercles, of a violet colour. During the first two years, she stated that the disease existed as a single, broad-based, firm tubercle, covered with desquamating layers of epidermis, and which gradually took on ulcerative action. Since that time it had slowly but steadily progressed, in spite of the variety of treatment which had been tried. Her home was in London, but she had, in hopes of benefit, paid long visits to the country, both inland and at the sea-side. As, however, is usually the case in this form of the disease, change of air had always aggravated her complaint.

Treatment.—A solution of the nitrate of mercury in concentrated nitric acid† was freely applied, with a glass brush, to the whole diseased surface, including all the surrounding tubercles, and over this was painted a thin coating of prepared collodion. She was ordered to take a teaspoonful of cod-liver oil three

* Essai d'hématologie pathologique, Paris, 1843.

† ℞. Hydrargyri ℥j, acid nitrici ℥ij; solve.

times a day, with a pill every night containing a grain of calomel and a third of a grain of opium.

March 4. The whole surface suppurating freely, the epidermial covering of the tubercles being quite destroyed. An arsenical powder,* made into a paste with water, was thinly applied. To continue the medicines.

During the first three months, one or other of the caustics was usually applied every fortnight, though often in very small quantity; the acid being selected for any fresh tubercles which appeared, and its effect followed up by the paste until the raw surface took on a new and healthy action. The constitutional treatment was continued up to July 20, when she was dismissed quite cured, all surrounding thickening having disappeared, and a pale soft cicatrix being all that was left to mark the seat of past ravages. The mercurial, though continued so long, had not produced ptyalism, or any other unpleasant effect, save once or twice a slight attack of griping pains, which subsided on omitting the pills, which she had been directed to do occasionally. In constitutional vigour she improved throughout the treatment, and when discharged she was stout, and expressed herself as feeling unusually strong and well.

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42. *Local Treatment of Ulcers of the Leg.*—H. T. Chapman, Esq., in a paper in the *Medical Times and Gazette* (April 17, 1852), makes some sensible remarks upon the local treatment of the various kinds of ulcers of the legs. In regard to the application of blisters to *callous ulcers*, Mr. C. remarks:—

"Instead of applying a blister large enough to cover the ulcer and a considerable portion of the surrounding skin, I found it quite sufficient to paint, with a camel's-hair brush dipped into acetum cantharidis, from a quarter to three quarters of an inch of the skin at the margin of the sore, making this streak wider or narrower in proportion as the induration extended to a greater or less distance from it. When the integument itself is in a callous, horny state, several coatings of the liquid may be required; and it should be allowed to dry before the leg is dressed. It rarely happens that much inconvenience is felt during the action of the blistering fluid, the patient being able to bear the pressure of a bandage lightly applied, and to take moderate exercise; sometimes, however, it causes a good deal of pain, and it becomes necessary that the limb should be laid up for twenty-four hours. Within this period vesication is usually accomplished to the requisite extent, and the detachment of the thickened cuticle, together with the flow of serum from the exposed surface, lowers the elevated margin quite as effectually as the larger blister.

"But the rise of granulations which ordinarily follows the dispersion of the indurated sub-stratum of an ulcer, is only the first step in its progress towards healing; and unless the sore be still carefully tended, it will speedily relapse into its former indolent or callous state. In all cases, therefore, as soon as this step is gained, no time should be lost in applying either Baynton's bandage, or the simple substitute for it which I employ; since upon no other after-treatment can we so confidently rely for bringing about a sound and lasting cicatrization.

"When most successful, a repetition of the blister is often called for, the margin of the sore manifesting a disposition again to become thickened and indurated as it decreases in size."

The following is Mr. C.'s summary of his remarks on first, of the comparative value of rest and support by bandaging in the treatment of ulcers; and, secondly, of the relative position which topical applications ought to hold with respect to these two principles:—

"It appears, then, *first*, that although *both* rest and support are especially adapted to counteract that morbid condition which is the substantial source of the intractability of ulcers, on the leg, almost all writers on the subject agree in expressing great doubts of the permanence of the cure accomplished under the influence of the former. But, were they equally to be relied on for completing and maintaining the cure, in by far the majority of cases the circum-

* ℞. Hydr. chlorid. ʒiss, hydr. bisulph. et acidi arseniosi, āā gr. v. Misce, fiat pulvis.

stances of the patient absolutely prohibit the efficient employment of rest. On the score, therefore, both of its superior efficacy and of its expediency, the weight of experience may be very decidedly quoted on the side of support by bandaging.

"And, *secondly*, if Whately and Baynton, by demonstrating that careful and judicious bandaging is capable of superseding topical remedies altogether in a very extensive range of cases, exposed, on the one hand, the fallacy of that exaggerated opinion of their virtues which was formerly entertained, it is clear, on the other, that they fell into the opposite error, and formed much too low an estimate of their real claims to consideration. And this mistake not only rendered their own practice less successful than it might otherwise have been, but has contributed to turn the scale once more in favor of rest employed in combination with them. Many of them are unquestionably very serviceable auxiliaries to both rest and support; the more important are essentially necessary as preparatory measures for the latter. But the fullest recognition of their true claims in no way brings them into competition with either principle, in relation to which they are no more than subsidiary forces, and ought never to have been raised to the rank of equivalents.

"To come back, therefore, to the point from which we started, 'instead of limiting our resources, by taking up and advocating any one remedy or line of practice exclusively,' I contend that, while we show a readiness to avail ourselves of *all* special measures, constitutional as well as local, which are calculated to meet the numberless exigencies of the complaint, the bandage, properly constituted, must ever be looked upon 'as the necessary superaddition to, or complement of,' all other means of cure whatsoever."

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43. *New Method of Reducing Strangulated Hernia.*—Dr. T. A. Wise gives (*Monthly Journal Med. Sci.*) the following particulars regarding a new method of reducing strangulated hernia: "While I had charge of a hospital in India, an elderly man was brought to it with a strangulated inguinal hernia. After in vain employing the usual means of reduction, I was preparing to liberate the gut with the knife, when a Mussulman gentleman suggested that the following method should be first tried, as he had seen it successful. As it appeared most simple and effective, I at once proceeded to try it. The patient was placed upon a table, and a long sheet, folded several times on itself, was carried round the lower part of the abdomen of the patient, was twisted on itself in front, and again on the sides, so as to enable an assistant, standing on each side of the patient, to hold the extremities of the sheet, and to pull them gently upwards, or towards the patient's head, while a third assistant held the feet steady, and a surgeon used the taxis.

"As the gut immediately above the strangulated portion was superficial and distended with air and liquid, it was drawn upwards with considerable force from the hernial sac, which was assisted by the surgeon using the taxis; when the strangulated portion was immediately reduced.

"This simple method may, in a very large proportion of cases, be employed with perfect safety, and at an early period, before inflammation and thickening have complicated and increased so much the danger of the operation, which is thus rendered unnecessary."

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44. *Puncture of the Abdomen in Tympanites.*—A case in which tympanitic distension of the intestines, complicated with obstruction, was beneficially treated by puncture, has been witnessed by M. Labric, who has made it the basis of a thesis, in which he has collated and commented upon all the instances of the kind which he could find on record.

In tympanites, the gas may accumulate either in the intestines, which is the most usual site, or in the peritoneal cavity, which is a much more exceptional occurrence. The operation of tapping the intestines under these circumstances, is frequently performed in the lower animals, more particularly bullocks and sheep, in which, after a large repast upon green food, great gaseous distension of the stomach not unfrequently occurs. The veterinary surgeons perform the

operation with a common trocar and canula, and the relief is often immediate and permanent.

Much difference of opinion, however, exists as to the propriety of the operation in the human subject, peritonitis being dreaded as a likely result; but M. Labric very justly objects to this apprehension, as uncalled for, as in nowise more likely to follow tapping for tympanites than for ascites, in which latter disease its occurrence is quite exceptional.

For the performance of puncture, the needle and the trocar have been respectively recommended; the author, however, prefers the latter, taking care that it is of a small size, such as is used as a means of exploring doubtful tumours. The only precaution required is to choose the most prominent and sonorous spot, at which it is known that the bowels are closely in contact with the abdominal walls. The author relates his own case and three others. In all, the relief was most marked and grateful to the patient; but as they were instances of insurmountable intestinal obstruction, in which the tympanitic distension was but one symptom, the ultimate result was of course fatal.—*Prov. Med. and Surg. Journ.* July 21, 1852.

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45. *Cicatrices of Burns.*—Dr. W. V. Pettigrew recently read an interesting paper before the Medical Society of London on the cicatrices of burns, where destruction of the skin had taken place. He prefaced his observations by alluding to the structure of the skin, more especially to the examination of the cutis vera. This portion of the tegumentary membrane was chiefly made up of white and yellow fibres; the former inelastic, inextensile, glistening, wavy, and cylindrical, averaging in diameter about the 15,000th of an inch; the latter elastic, extensile, sometimes cylindrical, at others flat, and varying from the 1-5th to the 10,000th of an inch in diameter. Dr. Pettigrew then explained the apparent anomaly of fibres of exactly opposite properties uniting to form one expansile and elastic webbing over the body, subject to every variety of change, thus: The white fibres, upon careful dissection, were found to consist, at the under part of the skin, of straight fasciculi, from the 3000th to 10,000th part of an inch in diameter; the fibres of these fasciculi afterwards were continued in spiral form, until they terminated at the under surface of the papillary layer; the yellow fibres were like a piece of India-rubber, elastic of their own nature, and abundantly intermixed; thus, the white fibres were elastic by position, and the yellow by their own peculiar property. This was illustrated by the experiment of drawing out a piece of India-rubber; then taking a straight piece of wire which was inelastic, coiling it up into a spiral form and thus rendering it elastic by position. The examination of a portion of cicatrix showed the regenerated white fibres to be hypertrophied, dull in colour, arranged in long straight fasciculi, very slightly spiral, and fixed to the parts below that had undergone more or less injury from the burn. Dr. Pettigrew had never yet been able to detect the regenerated yellow fibre, although he had industriously sought for it, but would not assert that it was never regenerated. With respect to the treatment of cicatrices, these, when recent, under careful mechanical treatment, generally present a decent and tolerable appearance; but, the case being lost sight of by the surgeon, gradual deformities arise, and the patient is at length compelled to seek assistance, rarely, however, from the surgeon who had first the care and anxiety of the case. Dr. Pettigrew referred to a variety of treatments, all of which he had himself tried with various success: 1st. Mr. White's method of dividing the bands and adhesions underneath the integument; this, in Dr. Pettigrew's hands, had appeared to succeed at first, but they afterwards returned. Mr. White's cases were admirably reported in the *Provincial Medical and Surgical Journal.* 2d. Simple division of the bands, touching the edges of the wounds when in course of healing with nitric acid. Cases were referred to; some successful, others failures. 3d. Extirpation of the cicatrix itself. This was of no use, unless the edges of the skin could be fairly brought together without tension, which might be partly averted by incisions being made in the neighbouring skin parallel with the excised scar. 4th. A method of treatment which attracted particular attention and observation from the members throughout the evening; it was applicable to cases where

fingers, or toes, or limbs were adherent either to each other or to the trunk. The operation consisted in perforating the contracted or webbed part with a trocar, and then inserting a piece of gutta percha, or any other suitable material, through the opening; the edges were allowed to heal, like the perforation in the lobe of a lady's ear (from which Dr. Pettigrew took the idea), and the remaining portion was then slit down. Two cases were related in which this operation had been perfectly successful—one in the lip, the other between the fingers. The last method of relief alluded to was that of freely dividing the cicatrix, and transplanting a healthy piece of skin, borrowed from a neighbouring part, into the gap caused by the incision. Two very interesting and successful cases were mentioned; one performed by Dr. Pettigrew, at the latter end of 1847, on the neck of W. S.; the other, more recently, on the lip of Miss G. The paper was finished by observations of a practical nature, referring especially to dressing the wounds, the temperature to be maintained, the ligatures, the erysipelas to be dreaded, and other matters. The paper was abundantly illustrated by large diagrams.—*Med. Times and Gaz.* Aug. 28, 1852.

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46. *Luxation of the Sacrum.*—An instance of this very rare accident is reported by M. Foucher (*Revue Medico-Chirurgicale*), in the case of a man who endeavoured to commit suicide by throwing himself beneath the wheels of a heavily-laden wagon. After death, which occurred at the end of a week, the chief appearance was, a dislocation of the sacrum forwards into the cavity of the pelvis. The ilia were also fractured. Similiar cases are on record; one, for instance, in the *Mémoires de l'Académie de Chirurgie*, tom. iv. p. 91, in which the accident occurred from the falling of a sack of wheat upon the pelvis; and another is published by M. Laugier, in the *Bulletin de la Société Anatomique*, Fev. 1850. In some other examples reported the luxation seems to have been the result of disease.

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47. *Cases of Atresia Ani in the Adult, with Preternatural Anus.*—Dr. Deutsch has met with two of these rare cases. The first occurred in an unmarried woman, æt. 29, whose corporeal development seemed, however, rather that of a girl of 15. She, however, enjoyed good health until seized with a nervous fever. While she was in an unconscious state, it was discovered, on attempting to give an enema, that there was no anal aperture. At its usual seat a cartilage-like substance, the size of a pea, could be felt; and at the entrance of the vagina, immediately below the hymen, which was complete, a pretty regular round opening, half an inch in diameter, was observed, surrounded by a firm, almost cartilaginous edge. The finger, passed through this into the rectum, caused fecal matter to flow out. Around the cartilaginous border, radiated folds of membrane were observed, resembling those surrounding the orifice of the urethra. The opening contracted slightly upon the finger, but could not be completely closed. The patient, on recovering her senses, was surprised to learn that she was the subject of an abnormal formation. She said she had only inclination for stool once or twice in a fortnight, the feces then passing either in a fluid state or in small hard pieces. She refused to submit to any attempt to remedy an inconvenience from which she suffered so little.

On examining the other case, occurring in a well-developed girl of 16, a completely flat surface, with neither depression nor elevation, was observed at the seat of the anus. About the middle of the perineum, and rather towards the right side, an aperture existed about the size of a pea, surrounded by almost cartilaginous edges, and capable of completely opening and shutting. Towards the interior it was lined by a circular fold of mucous membrane; and the completeness of the power of expansion and contraction which existed, left little doubt of the existence of a muscular apparatus.

Doepp states, in the "Transactions of the Petersburg Physicians," that among five cases of atresia ani in the adult, two occurred in girls. The hymen extended to a membrane closing the anus, and an aperture existed in the vagina. In both cases he sought, by an incision in the interval between the hymen and rectum, to enlarge the aperture of the artificial anus; but both cases died in

consequence of his interference.—*B. and F. Med.-Chirurg. Rev. July* 1852, from *Neue Zeitsch. für Gebürts.* Band xxx.

48. *Consequences of Congenital Phimosis.*—M. Fleury terminates his paper upon this subject with the following conclusions: 1. Congenital phimosis possesses a pathogenetic importance that has been almost entirely overlooked.—2. This is exhibited in three orders of phenomena to which it gives rise. These are (*a.*) Accidents relating to the genital organs. The penis and testes are frequently small, and the mucous membrane of the glands delicate, red, and morbidly sensitive. Coition is painful and ejaculation incomplete, difficult, and often attended with severe perineal pain. Exhausting erections and nocturnal pollutions are of frequent occurrence, as are urethral discharges even after the purest connection. The genital sense is sometimes so excited as to give rise to almost continual erection, immoderate venereal desire, masturbation, and involuntary emission: while in other cases it is, so to say, extinct, a more or less complete anaphrodisia prevailing. (*b.*) Phenomena referable to the urinary organs. These are, frequent desire to pass urine, pain at the orifice of the urethra, and other symptoms, which are usually attributed to a vesical neuralgia, disease of the prostate, stone, or some other disease of these organs. (*c.*) Various disturbances of the nervous system, presenting a great analogy to those observed in women suffering from uterine disease, or displacement of the uterus, such as gastralgia, hypochondriasis, and hysteriform attacks—the true cause of which symptoms is always overlooked.—3. The excision of the prepuce is the only remedial means.—In 23 out of 27 cases in which this was resorted to, success was complete, the 4 others being lost sight of soon after the operation.—4. Whatever form of treatment may be had recourse to, these cases cannot be relieved until the vicious conformation has been remedied. After the operation, tonics, antispasmodics, and especially hydro-therapeutic means, are often of great service.—5. Ricord's operation, aided by the *serre-fines* of Vidal, constitutes the best surgical procedure.—*B. and F. Med.-Chirurg. Rev. July*, 1852, from *Bull. de l'Acad.* tom. xvii.

49. *Supposed Aneurism of Bone. Alleged death from Chloroform.*—M. Pamard, of Avignon, lately submitted to the Academy of Medicine of Paris, an instructive case of supposed aneurism of the fibula, and death, alleged to be from chloroform, a week after the operation. The patient was a young soldier, twenty-seven years of age, who, while engaged in gymnastic exercises, felt a sudden pain in the leg, and was obliged to desist. A tumour, about the size of half an egg, was now noticed over the left fibula. Various means were used for some time to disperse the swelling, but to no purpose. The man was at last transferred to the hospital of Avignon, when the tumour had reached a very large size. It was elastic, seemingly surrounded by a thin, osseous shell, closely attached to the fibula, but unadherent to the tibia. There was no fluctuation, no *bruit de soufflet*, and no pulsation. M. Pamard had recourse to extirpation whilst the patient was under the influence of chloroform, administered with an oil-skin bag, in which were several little sponges, moistened with chloroform. As the patient was not affected by the drachm of chloroform which had been poured into the bag, another drachm was added, which sent him to sleep. The tumour was opened before it was finally removed, and found distended with a considerable quantity of clots, evidently of very old formation. M. Pamard then thought that the tumour was really an aneurism of bone.

The patient fell, during the operation, into a state of syncope, though there had been very little hemorrhage; ammonia was used, and as soon as the leg was dressed he was taken to bed, where warm flannel was placed upon the limbs and the præcordial region. No reaction ever took place, the pulse regained no force, and the man remained in a passively languid state for nine days, and died, in spite of a great variety of stimulants which were used to rouse the system.

On a *post-mortem* examination, the affected leg was found completely sphacelated, and the tissues infiltrated up to the thigh, but no attempt at healthy inflammation could be perceived. The tumour was springing from the fibula,

surrounded by a thin, osseous envelop; and where this was deficient it was replaced by a fibrous tissue resembling the periosteum. The interior of the tumour was filled by a considerable mass of solid clots. It was found impossible to trace the vascular connection between the cavity of the tumour and the bone. M. Pamard attributes the gangrene of the limb to the complete state of prostration into which the patient fell immediately after the operation, and thinks that the inhalations of chloroform had been mainly instrumental in that result.

Three surgeons of eminence, viz., M. Roux, M. Velpeau, and M. Cloquet, took part in the discussion to which this communication gave rise. M. Roux stated that deaths of this kind had taken place before the use of anæsthetic agents was introduced, and that he doubted very much that chloroform was to blame in this instance. He had, on the other hand, several years ago described this kind of aneurism of bone, and was of opinion that the ligature of the main artery of the limb might have been resorted to, instead of extirpation.

M. Velpeau thought the tumour was more of a cancerous than of an aneurismal nature; he had seen several such growths, and would class them among the fungus hæmatodes variety. As to the chloroform, he quite agreed with M. Roux.

M. Cloquet concurred with M. Velpeau as to the nature of the tumour, but thought the chloroform very probably was the cause of death.

It is plain that the tumour in question did not present any of the symptoms of aneurism of bone, as described by Scarpa; nor will the term fungus hæmatodes, as applied in this country, agree with the growth and appearance of the swelling. It would, with English surgeons, probably be ranked among encephaloid growths broken down by hemorrhage. As to the effects of chloroform, opinions will probably be divided; but as there was previous good health, and little hemorrhage, one might be inclined to look to the chloroform for the fatal results of the operation.—*Lancet, August* 14, 1852.

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50. *A form of Sanguineous Tumour of the Cranium.* By MM. Stromeyer and Dufour.—Prof. Hecker described, in 1845, a hitherto unobserved affection, under the name of *varix circumscriptus venæ diploicæ frontalis*, consisting in a sanguineous tumour of the cranium, having connection with the veins of the diploë, and through these with the sinus of the dura mater—an incomplete formation of the outer cranial wall being present. To this M. Stromeyer proposes to give the name of *sinus pericranii*, and furnishes notes of two examples he has met with. One of these occurred in a child six years old, who, four years since, fell from a considerable height, producing an indentation of the parietal bone. A swelling formed here, which, when full, projected to three lines. It filled on occasions, which caused congestion of the brain; but otherwise no fluid could be felt in the depressed part. A deficiency of the outer table existed. 2. A soldier, aged 20, had had from his birth a large swelling over his left eye, which, on occasions when the brain became congested, projected an inch above the level of the forehead. On emptying the swelling, a depression was felt in the os frontis, as if from a loss of substance. The blood re-entered the tumour half a minute after being pressed out. The condition of the skin was normal.—*Schmidt's Jahrb.* vol. lxx. p. 146.

A case recently related by M. Dufour seems to be of the same nature as the above; and is the more interesting from a *post-mortem* examination having been made. The subject of it was an old officer, who in 1799 had received, while mounting a breach, a blow on the forehead. In 1847, M. Hutin carefully examined his condition. As there had been no breach of surface, there was no cicatrix; but a very sensible depression of the frontal bone was present, supposed to be due to absorption of the diploë, and approximation of the other two tables. A tumour, covered with very thin skin, and of a livid colour, formed to the size of half an egg when he held his head downwards towards the ground, but disappeared again as soon as he altered his position. No pulsation existed in it, nor did the respiratory actions influence it, during the short period it could be examined—the position necessary for its production causing vertigo. The veteran enjoyed good health, could read without glasses, had a distinct articulation, and slept a good deal. He died of bronchitis (aged 81) in 1851;

and after death, inclining the head downwards failed to fill the tumour as it did during life. The brain was found to be healthy. At three centimetres distance from the falx on the right side, the two parietes of the arachnoid and the dura mater were adherent, as was this last to the skull. On detaching these adhesions, several red points, orifices of open vessels, were observed, and opposite to these, small openings in the table of the skull. Water dropped into this space soon filtered through, rendering the skin tumid; and by injecting fluids and passing bristles, the communication between these openings in the bone and the longitudinal sinus was proved to exist. The caliber of the sinus was somewhat enlarged, and it contained a coagulum. On dividing the scalp externally, slender fibrous prolongations were observed to extend from the fibro-muscular layer to be united with the periosteum, at the edge of the depression, which was five centimetres broad and two and a half deep. It was lined by a very delicate periosteum, continuous with these filaments. The edges of the depression consisted of thickened, compact tissue, while the centre was composed of very thin, rarefied bone. The portion of the bone corresponding to the thinning of the external skin (about two centimetres in diameter) was destitute of diploë, and perforated with holes. No internal projection corresponded with the external depression.

Although all tumour was now absent, the mouths of the vessels corresponded with the apertures in the bone; and the affection might not improperly be termed an *osteo-vascular fistula*, or, according to M. Bouchut, a *fistula of the longitudinal sinus*. The pathological openings were, however, situated about an inch from the sinus, and the reductibility of the tumour during life is to be borne in mind. M. Dufour thinks the case can be best characterized as one of "sanguineous hernia of the cranial vault, by communication of the meningeal vessels with the external skin, through apertures in the bone." His personal inquiries and literary researches have failed to discover a similar case.—*Brit. and For. Med.-Chirurg. Rev.* July, 1852, from *Gaz. Med. de Paris*, 1851, No. 49.

MIDWIFERY.

51. *How to form a correct Estimate of the Dimensions of the Female Pelvis.*—G. Vrolik asserts that no writer on obstetrics, from J. L. Baudelocque to J. E. Rosshirt, whose works he has referred to, proceeds upon a sure principle in estimating the dimensions of the female pelvis, and, in particular, of the inlet of the lesser pelvis. On the contrary, the oblique measurements should not be taken in a direction to which it is certain that the fœtus cannot naturally be accommodated, nor should the transverse diameter be taken so far back or forwards as to bear no necessary relation to the head of the child. To exhibit that correspondence between the fœtus and the aperture necessary for the passage of the former, all the lines of diameter should, according to Vrolik, be so drawn as to intersect each other in the central point of the brim of the lesser pelvis. This holds good no less of the transversely oval and obtusely heart-shaped pelvis, than of the round pelvis of the Javanese and of some European women. The direction of the oblique diameter, in order to correspond with the place which the head must occupy at the inlet, should not be from the sacro-iliac synchondrosis to the upper part of the pectineal eminence, or ischio-pubal synostosis of the opposite side, but to a point a few lines further forward on the horizontal ramus of the pubes, *i. e.*, excluding about three-fourths of the length of the ramus. (In his Illustrations of the different forms of pelvis in different races, published in 1826, Vrolik has already pointed out this.) If a fœtal head of average size be applied to the pelvic inlet with its long diameter in any other oblique direction, whether more forwards or backwards, resistance will immediately be experienced either against the promontory of the sacrum, or one of the superior rami of the pubes. What is true of the inlet continues true of the passage and outlet, for the centre of the inlet

is to be regarded as the axis of the lesser pelvis. Vrolik further points out, that the antero-posterior diameter of the outlet is by most authorities represented by a line touching the extremity of the coccyx while that bone is directed forwards; if the line be drawn to the coccyx directed backwards, its middle point will, as at the brim, be also the centre of the transverse diameter. Ritgen, who assumes four diameters drawn through the middle point of the inlet, cavity, and outlet of the lesser pelvis, has, in the determination of his measurements, proceeded upon an erroneous principle. The head in the successive positions which he believes to be necessary for natural labour, must, before leaving the mother's body, describe a half circle; but as the body, firmly embraced by the contracted uterus, cannot follow all these movements of the head, displacements of the cervical vertebræ or rupture of their ligaments would frequently ensue.—*Monthly Journ. Med. Sci.* Sept. 1852, from *Nederlandsch Lancet*, Feb. 1852.

52. *Pregnancy reputed Anormal, and terminating naturally.*—M. Huguier recently communicated the following instructive case to the Parisian Société de Chirurgie. A woman under his charge in hospital was believed to be the subject of extra-uterine, or, at least, of anormal pregnancy, for the following reasons: 1. The abdominal tumour rose very high. 2. There was a distinct depression between the tumour and the pubes. 3. The child was felt through the parietes of the belly. 4. The form of the tumour was quite peculiar. 5. There was no placental souffle. 6. The tumour, instead of occupying the median line and bulging forwards, occupied the whole right flank. 7. In the vaginal *cul-de-sac*, a tumour was felt, and believed to be part of the child. 8. Fecundation had been *la suite d'un acte violent*, and had been followed by circumstances which have been noted as often symptomatic of extra-uterine pregnancy. 9. Of the two physicians to whom the patient had first applied, one considered her to have organic disease of the liver, while the other inclined to the belief that she had a tumour of the right ovary.

M. Huguier noticed, in addition, a continual increase of the transverse diameter of the abdomen—persistence of tumour in epigastrium—and the peculiar carriage of the patient, who instead of throwing her body backwards, bent forwards while standing. Latterly, there had been febrile disturbance and intermitting lumbar pains, causing suspicion of peritoneal irritation. In addition, up to the last moment, no sign of approaching parturition: no uterine contraction, no dilatation of the cervix.

On the morning of the 30th of June, when M. Huguier saw the patient with M. Danyau, "the cervix was behind the pubes; it was conical and undilated. At this moment M. Danyau inclined so strongly to the idea of extra-uterine conception, that he pointed out the length and direction of the incision to be made.

"It was at three A. M. next day that labour commenced; the first pains manifested themselves on the 1st of July, in the morning; they were very frequent, recurring every five minutes; up to this time, no alteration of the cervix. Some persons who were present urged me to interfere; but not being sufficiently satisfied of the existence of the extra-uterine pregnancy, I refused, saying, that at two P. M. I should revisit the patient, and perform gastrotomy, after catheterizing the uterus. At fifteen minutes past two, MM. Danyau and Roux having arrived, I examined the patient with the finger. The cervix was not open, but I felt something give way, and recognized the head presenting. From this moment all doubts were removed; a simple labour was approaching; the head presented in the first position; nothing unusual occurred, and in two hours the woman was delivered."

On the third day the milk fever was observed; for ten days the uterus remained high in the right flank, above the umbilicus, but finally resumed its normal position. Behind the uterus is felt a tumour of the size of an apple, which M. H. conceives may have been more voluminous during the pregnancy.

"I am inclined," says M. Huguier, "to attach the more importance to this case, because it presented numerous points of difficulty of diagnosis, and because all my *confrères* who saw the patient shared my doubts. It was,

therefore, an anormal pregnancy. If M. Paul Dubois did not admit the case to be one of extra-uterine pregnancy, he at first thought that the pelvis was presenting. As for M. Moreau, he likewise inclined to the idea of extra-uterine pregnancy."—*Month. Journ. Med. Sci.* Sept. 1852, from *Gazette des Hôpitaux*, 1852, No. 94.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

53. *Action of the Gastric Fluid on the Stomach.*—After stating the important ingredients of this, in the stomach (of a dog), viz., 1.95 of lactic and muriatic acids, in 1000 parts, the ferment, *i. e.* the organic matters held in solution in the water, which has been known by the name of *pepsin*, Dr. Dalton proceeds to derive: "The active principle, then, of the gastric fluid is an organic substance, similar in its mode of action to the ferment, and which it is necessary should be dissolved in an acidulated fluid. When these two essential ingredients, the organic principle and the acid, are both present, the gastric fluid has the property of dissolving the *albuminoid and gelatinary matters*, but all *other alimentary substances, amylaceous, fatty, and saccharine, are entirely unaffected by it.*

"Now comes an exceedingly interesting and puzzling question. How is it that this fluid, which dissolves muscular fibre, mucous membrane, cellular tissue, &c. &c., does not attack the walls of the stomach itself in which it is contained? How is it possible for a fluid, destructive of albuminoid substances, to be contained in an organ which is itself composed almost entirely of albuminoid tissues? This difficulty has usually been explained by referring to the vitality of the tissues of the stomach, by which they are rendered capable of resisting the chemical influence of the solvent; in the same manner as we know that the living body resists the extremes of heat and cold, while, after death, it immediately takes the temperature of the surrounding atmosphere. M. Bernard, however, explains the matter in a very different way. According to him, the gastric fluid resembles, in its mode of action, not only the ferments, but also a large class of poisonous substances, such as the venom of serpents, the vaccine virus, the Woorara poison, &c., which are exceedingly active when introduced into the circulation, but still may be taken into the stomach with impunity. It is now some years since M. Bernard undertook a series of experiments, for the purpose of ascertaining, if possible, the reason of this singular peculiarity, and the conclusion at which he arrived was that these poisons had no effect when taken into the stomach, simply because they *were not absorbed.* The fact had been previously explained by supposing that the gastric fluid acts upon the virus and destroys immediately its noxious properties; that the poison is in fact digested and chemically altered immediately upon entering the stomach. Bernard, however, shows most conclusively that this is not the case. Last week, he brought into the lecture-room a dog with a gastric fistula, and introducing a glass tube extracted a small quantity of gastric fluid, with which he inoculated a sparrow, by pricking it into a fresh wound in the thigh. This experiment was merely preliminary, and intended to show that the gastric fluid alone is not noxious. In effect, the sparrow appeared to suffer no inconvenience from the operation. Bernard then introduced into the stomach of the dog about ten grains of the Woorara poison (dried extract), and allowed it to remain. Between seven and eight minutes afterwards, another quantity of gastric fluid was taken from the dog's stomach, and a second sparrow, of the same size and appearance as the first, inoculated with it, and at the end of two minutes the bird was dead. Notwithstanding, the dog, as well as the first sparrow, remained perfectly unharmed.

It is proved, therefore, that these poisons are not destroyed by the gastric fluid, but are simply dissolved in it, and retain their activity, and that it is possible for an animal to have in its stomach, without suffering any harm, a poison, which, if introduced into the circulation, would be fatal in a few seconds.

Now for the reason why these substances are not absorbed, and consequently do not prove injurious. M. Bernard considers the stomach as defended from their action simply by the layer of mucus which covers the internal surface, in precisely the same manner as the skin is defended by its epidermis. The Woorara cannot penetrate the epidermis, and consequently is not absorbed when held in the hand. Neither can it penetrate the mucus of the stomach, and is, therefore, innocuous when swallowed. To exert a poisonous action, it must be introduced into the circulation.

According to Bernard, the gastric fluid, also, to exert its solvent power, must be *absorbable* by the substances with which it is placed in contact, and, like the Woorara, is prevented from attacking the walls of the stomach by the mucus which covers its surface. But there is still a greater difficulty remaining, viz., that as the gastric fluid is secreted by the mucous membrane of the stomach, it must necessarily be in contact with it when first produced. In order to reconcile this difficulty, we must recollect the manner in which Bernard considers the gastric fluid to be formed.

There are two essential ingredients in the gastric fluid, viz., the organic matter, the ferment called "pepsin," and the acid fluid in which it is dissolved. There are also two secretions in the stomach, viz., mucus, which is exuded from the surface of the mucous membrane, and the acid fluid, which is secreted by the gastric tubules or glandules. The layer of mucus is constantly being renewed, a fresh supply being continually exuded from the surface of the stomach, and gradually pushed farther and farther from it by that which is secreted afterward underneath. The secretion of the gastric tubules, when first produced, is simply acidulated fluid, incapable of digesting alimentary substances. It does not contain any of the organic matter. This organic matter does not exist until the acid fluid has traversed nearly the whole thickness of the layer of mucus, and is consequently separated from contact with the mucous membrane. *The active principle of the gastric fluid is, in fact, simply the gastric mucus which has become altered while moving from the surface of the stomach towards its cavity*, which has lost, in the mean time, its viscidity, and become soluble in the acid fluid. It is, then, very easy to understand how the gastric fluid may be said to be secreted by the mucous membrane of the stomach, and yet never have been in contact with it. So certain is it that the active digestive principle is only altered gastric mucus, that we may make an artificial digestive fluid by mixing the mucus of the stomach with acidulated water. After a few days, when the mucus begins to undergo a putrefactive change, it loses its viscidity, dissolves in the water, and the solution then exhibits all the digestive properties of a true gastric fluid. It may be considered, then, as almost demonstrated that the active principle of the gastric fluid and the altered mucus of the stomach are identical.

Such is the explanation of M. Bernard.—*Professor Dalton*, in *Buffalo Med. and Surgical Journal*, August, 1852.

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54. *Strychnine in British Beer, Pale Ale, &c.*—Some time since, in a lecture delivered by M. Payen, at Paris, he is asserted to have stated that strychnine was prepared in large quantities in Paris, and that the French authorities had ascertained that it was destined for England, it being employed in the manufacture of the celebrated bitter beer of that country.

This statement was copied into the *Times* newspaper, and thus became universally disseminated. It was met with a decided and indignant denial on the part of the manufacturers. They invited and obtained the services of eminent analytic chemists (Professor Graham, of University College, and Professor Hoffman, of the Royal College of Chemistry), who deny unequivocally the presence of the poison in even the smallest possible quantity. Their observations, and the mode of analysis pursued, are worthy of attention.

Strychnine, the alleged (in this instance) substitute for the hop, is a fine crystallizable substance, extracted from nux vomica, and belongs to the class of vegetable alkaloids. Although a valuable medicine in minute doses, still, it is remarkable for its energy as a poison, and for the intense bitterness of its taste. Half a grain would poison a person, and the bitterness of the same

minute quantity is perceptible in every drop of six or eight gallons of water in which it is dissolved.

"It may be stated, at once, that the quantity of strychnine which we find necessary to impart to beer the degree of bitterness possessed by pale ales, is, for a gallon of beer, one grain of strychnine, or double the fatal dose. The price of strychnine is about 16*s.* the ounce, which does not amount to so much as one penny per grain. Estimating the annual production of pale ale in Burton at 200,000 barrels, the strychnine required as a bitter would, however, amount to 16,448 ounces, and cost £13,158, while nobody believes that so much as 1000 ounces of strychnine are annually manufactured over the whole world. The bitterness obtained by means of strychnine is equal in degree to that of the hop, but very different in kind, and easily distinguished when the two bitters are compared. The bitter of the hop is immediate in its action upon the palate, is accompanied by a fragrant aroma, and soon passes off; while that of strychnine is not so instantaneous; but when the impression is once communicated it is more lasting, and becomes, from its persistence, like that of a metallic salt. The bitter of strychnine is, indeed, easily distinguishable from that of the hop when deliberately tasted."

"Still, it would be highly desirable to be able to identify strychnine in beer by the actual extraction of the substance, and the application to it of a chemical test of absolute certainty. Fortunately, those poisons which have the most violent action upon the animal economy, possess often, also, the best marked reactions, or their physiological and chemical properties are equally salient. Thus arsenic and hydrocyanic acid are the most easily detected of chemical substances, and strychnine proves to be not far behind them in this respect.

"A quantity of strychnine, not exceeding one-thousandth part of a grain, is tested and recognized to be strychnine in the following manner: The powder is moistened with a single drop of undiluted sulphuric acid, and a small fragment of chromate of potass placed in the liquid. A beautiful and most intense violet tint immediately appears at the points of contact, and is speedily diffused over the whole liquid. Although most intense, the colour disappears entirely again in a few minutes. The admixture of the smallest quantity of organic matter, however, interferes with the success of the process. In order to apply the test in operating upon a complex liquor like beer, the strychnine must first be extracted from the liquid, and obtained in a pure, or nearly pure, state. This difficulty, which appears at first considerable, may be readily surmounted, and the strychnine, if it really exists in beer, be separated, and its nature established in the most certain manner."

"For this purpose, two ounces of ivory black, or animal charcoal, were shaken in half a gallon of beer, to which half a grain of strychnine had been purposely added. After standing over night, the liquid was found to be nearly deprived of all bitterness, the strychnine being absorbed by the charcoal. The liquid was now passed through a paper filter, upon which the charcoal containing the strychnine was collected and drained."

"The next step was to separate the charcoal from the strychnine. This was readily effected by boiling the mixture for half an hour in eight ounces of ordinary spirits of wine, avoiding loss of alcohol by evaporation. The spirits, which now contained the strychnine, were next filtered, and afterwards submitted to distillation. A watery fluid remained behind, holding the strychnine in solution, but not sufficiently pure for the test. The final purification was accomplished by adding a few drops of potass to the watery fluid, and then shaking it with an ounce of ether. A portion of the ethereal solution evaporated upon a watch-glass left a whitish solid matter of intense bitterness, and this was recognized to be strychnine, by giving the violet tint previously described, upon the application to it of sulphuric acid and chromate of potash."

Having thus satisfied themselves by repeated experiments on beer to which strychnine had been added, of the efficiency of the test, Drs. Graham and Hoffman proceeded to the analysis of a large number of samples of pale ale, taken indiscriminately from the supplies of some twenty manufacturers. *Not one of the varieties of beer, when tested with the greatest scrupulousness, gave the slightest evidence of the presence of strychnine.*—*Medical Times and Gazette*, May 8, 1852.

The Lancet (May 15, 1852) also contains a very satisfactory article on the chemical tests for detecting strychnine in beer, with the results of analysis, all agreeing with those already mentioned. We will only extract the following:—

"But we need not confine ourselves to chemistry in order to obtain evidence of the presence of strychnine in organic fluids, as physiology will disclose the fact almost equally well."

"One gallon of beer, to which a grain of strychnine had been purposely added, was evaporated to an extract; this was boiled for nearly an hour in a mixture of ether and alcohol. The solution, after filtration, was evaporated, and the residue, of a soft consistence, was administered as a pill to a small rabbit. In the course of two minutes, the animal became affected with convulsive twitchings; these were almost immediately succeeded by a paroxysm of convulsions, in which the animal threw himself on his side, the head and neck being thrown back, the hind and fore legs extended and drawn backwards. The first paroxysm was rapidly followed by others, and in less than five minutes after the administration of the pill the rabbit was dead, it having exhibited the peculiar symptoms which characterize poisoning by strychnine." T. R. B.

55. *Poisoning by Arseniate of Soda!*—Two young men, employed as clerks in a drug-store in Paris, and sleeping in the same chamber, were seized with severe pain in the bowels, which they attributed to a change of weather. They determined to take a purgative, and selected Saturday night for this purpose as the convenient time.

They sent to a chemist for doses of tartrate of soda, that having been prescribed for them. They took them at 11 o'clock at night, and then went to bed. In about five minutes they were attacked with violent cramps of the stomach. They were considered as the effects of the medicine, and the patients bore up under them. But, about five in the morning, their sufferings became so intense that they were obliged to cry out. On coming to their aid, the family found them so ill that physicians were sent for. But, in spite of every attention, one of them soon died, and the other remains in a very dangerous state.

The commissary of police, on being apprised of these circumstances, made the proper inquiry, and it was ascertained that the supposed purgative was a mixture of tartrate of soda and an arsenical salt, and, by a still more deplorable error, the poison had been placed in a bottle of tartrate of soda.

The Director of the School of Pharmacy has taken occasion, in consequence of these cases, to address a circular to all the *Pharmaciens* of Paris, renewing his cautions as to the sale of medicines, and stating the following:—

That several cases of poisoning have recently occurred in Paris, in consequence of a most fatal error, viz., the sale of *arseniate* of soda for *tartrate* of soda. That the druggists should each and every one take care to be assured of the purity of the tartrate of soda which they sell; and, finally, that they should carefully satisfy themselves of the purity of all chemicals purchased.—*Journal de Médecine et Chirurgie*, June, 1852. T. R. B.

56. *Should the Use of White Lead as a Paint be forbidden by Public Authority?*—This question is exciting considerable interest in France, one of the few countries in Europe where a due regard to the public health is part of the business of government. In England and this country we are too jealous of individual rights, too independent, if you please, to allow our rulers to watch over the well-being of the community.

We shall therefore merely present facts, without comment, as given to us in a memoir of Dr. H. De Castelnau:—

"In his remarkable memoir on *Painting with White Zinc*, Dr. Bouchut advised the government, if it had due regard for the health of workmen, to forbid the use of white lead as a paint on all the public buildings, and that an example should be presented for imitation by the substitution of an article less deleterious. The favourable manner in which this proposition was received by the Academy of Medicine, at its session on the 4th of November, 1837, indicates their full accordance in the idea, although they were necessarily restrained from entering into the merits of the question of economics, and we derive a similar indica-

tion of opinion in the large premium bestowed by the Institute, in 1849, on M. Le Claire, for his essay on the means of rendering occupations less unhealthy.

All these circumstances have doubtless tended to aid in diffusing a report that government is about suppressing the manufacture of white lead. To aid such a measure, a few details on the point of sickness and mortality will be of use.

In accordance with a requisition from the prefect of police, the administration of hospitals demanded an annual return of all cases admitted into them of diseases from lead. It thus appears, that during ten years (1838 to 1847), 3142 were admitted, and that 112 of these died, being an annual mean of 314 sick and 11 dying. There can, however, be scarcely a doubt but that the first number is too low. There is very frequently a doubt as to the nature of the complaint on admission—indeed, lead affections take some time to develop themselves, and thus cases are frequently referred to other diseases. It is highly probable that at least 400 cases are annually admitted, and that fifteen deaths occur.

Of the gross number (3142), three-fifths (1898) were cases of workmen engaged in the manufacture of white or red lead, and the remaining two-fifths were persons employed in using these products, as painters, grinders, makers of porcelain cards (so called), &c.

Then again, there are many cases treated at their own dwellings, but unfortunately we have no data exactly to estimate their number. It is quite probable that they are at least equal to those treated in hospitals, and if this be conceded, we have annually 400 cases of lead disease in those who are strictly manufacturers of the preparations of lead, and of which 14 die. It would be too extravagant to carry this proportion throughout France. Reducing it nine-tenths, and with a due regard to the statistics of provincial hospitals, we are certainly safe in stating the total annual result at 2000 cases of disease and 80 deaths. These would be at an end with the suppression of the manufacture.

But there is another matter to be also considered. The average sojourn of a patient with saturnine disease in a hospital is 16 days. Add to this, the illness and loss of time that precedes, and the debility, broken health, and loss of business that follows so many of the workmen. Even if we do not estimate this last, still, the hospitals will be relieved annually of sixteen or seventeen thousand days of sick persons, not to take into account the permanent residence of many incurables.

Can there, then, be a doubt that the public health will be greatly improved by the suppression of these manufactories? Still, however powerful may be the arguments in favour, it would hardly answer to attempt their suppression, unless we could find a proper substitute, both in the healthiness of its manufacture, and its value in the arts. Can both of these objects be accomplished by the employment of the white oxide of zinc (*le blanc de zinc*)?

As to the first, Dr. Bouchut, just at the time of concluding his memoir, in July, 1851, received the following return from the company manufacturing zinc at Asnieres. Up to the date named, they had employed 151 workmen, who together had performed labour during 31,585 days, and had been in the factory 36,156 days. In other words, the average was 209 labour days, and 344 days of residence for each person.

It is scarcely possible to present a more favourable bill of health. Who ever heard of a manufacturer of white lead remaining in its manufacture during 344 successive days? Besides, most of the above workmen still remain, and are able to count upwards of 1000 labour days.

Dr. Bouchut has carefully studied what should be called the *effects*, rather than the *diseases* caused by this species of manufacture. They are as follows:—

1. Pains in the throat and slight cough occur during the first days of labour, until the mucous membrane becomes accustomed to the exhalations from the white zinc. But they disappear very soon, and the workmen there are no more subject to cough or throat affections than the same given number of any other persons.

2. Many of the workmen are at various periods subject to a curious species

of innervation shown by febrile or non-febrile restlessness at night. But this does not affect the general health, and they return in the morning to their labour. Occasionally, there is a species of excitement, temporary, such as Delaroche and Barbier ascribe to the oxide of zinc, but with most it is the short feverish feeling just described. It is always of short duration, never dangerous, and disappears after the system has been accustomed to the employment.

3. Occasionally, eruptions appear on the skin, of reddish papulæ, which readily disappear with proper treatment.

Having thus noticed the effects, Dr. Bouchut proceeds to mention three cases of slight disease, ascribed to this cause. But a careful analysis proves that they were not owing to it.

Here, then, we have results which are frequently produced by emanations from the *most harmless substances*, when inhaled in the form of powder. The difficulty only extends thus far. But while white lead as powder causes its severe results also, we must recollect that it is equally noxious when manipulated in the humid form. From this, however, white zinc is totally free. It is only the powder of it that affects the workmen.

We should also remember the large doses that have for many years been administered of the white oxide as a medicine, without causing any accident. M. Orfila, the highest authority in toxicology, gave 20 grammes ( ) to small and feeble dogs, with only the result of gentle vomiting, and a subsequent perfect recovery. How very different are the consequences of administering white lead.

As to the economic value of white zinc. It can be manufactured for exactly the same price as white lead, and being much lighter, a larger quantity can be sold for the same sum of money. It cannot be adulterated. This, indeed, has been made a formidable objection to it. White lead is very commonly mixed with sulphate of barytes, and not unfrequently with chalk. White zinc can be used with equal facility as a paint. It does not dry as readily as white lead, but the difference in time is small. It has been objected that it does not set well as a paint, but this is altogether a mistake. Two coats cover wood *very nearly* as well as white lead, and there is this further advantage, the vapours of sulphuretted hydrogen do not affect it, whilst all the preparations of lead turn black from them.

M. Leclaire, an eminent house-painter, and others, have verified its use, on more than two thousand buildings, some of them public ones, to the satisfaction of the community.

The results, then, of suppressing the use of white lead by public authority will be—to save annually the lives of eighty workmen—to prevent 2000 cases of disease, some of them, indeed, incurable—and to enable active industry to continue its labours uninterrupted.—*Abridged from La Lancette Française* (*Gazette des Hôpitaux*) of June 8 and 15, 1852. T. R. B.

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57. *Lead, Cider, Champagne.*—"Several very serious attacks of colic, with great prostration, have lately come under the cognizance of different practitioners of the French capital, the cause of which has been traced to the use of cider adulterated in the following manner. It has been found that unprincipled brewers used wine of very dark colour, coming from the south of France, to make cider, by first taking off the colouring matter with acetate of lead, and then causing the fluid to ferment by the addition of rotten apples. They then contrived to produce, by adding a great deal of water, a clear, pungent, frothy beverage, pleasant both to the eye and the taste, and which bore a striking resemblance to good cider. This compound had of late been in great request, and its ill effects are still noticed, the symptoms being principally vomiting, unconquerable constipation, colic, leaden hue of the skin, convulsive movements, impending paralysis, and the characteristic blue line of the gums. The government have, through the Committee of Hygiene, instituted the most searching inquiries on the subject."—*Atlas* (London newspaper), July 24, 1852. T. R. B.

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58. *Chloride of Palladium, a delicate Test for Iodine.*—It isdoubtful whether we shall ever succeed in obtaining a more delicate test than the well known

starch one, when properly used. M. LASSAIGNE, however, recommends another, as very minute. He affirms that a solution of iodide of potassium, containing not more than two millionths of its weight of this salt is rendered distinctly brown by the addition of the chloride of palladium.—*Annals of Pharmacy*, May, 1852. T. R. B.

59. *Ergot; easy Method of pulverizing and preserving it.*—M. VIEL recommends the following: Dry the ergot in an oven at a gentle heat, and then add double its weight of fine loaf sugar. The powdering of the ergot is thus accomplished in one-third of the usual time, and the sugar also possesses the power of preserving all the active properties of the ergot for many years, as M. Viel has been assured by several medical practitioners who had used it. It should be kept in small bottles, well stopped, to prevent its becoming moist.—*Annals of Pharmacy*, January, 1852. T. R. B.

60. *A new Organic Base from Ergotin.* By Dr. F. L. WINCKLER.—When ergotin, the watery extract of secale cornutum, is distilled with caustic potash, ammonia, and a volatile organic base, pass into the receiver. I have arrived at the conclusion that this alkaloid is identical with propylamin, which is the product from the decomposition of narcotine by potash, and is also a constituent of the pickle of herrings. Its odour is so peculiar, that I recognized it as being the same as that produced from the latter source.

Propylamin saturates acids completely, forming salts which are mostly (except the sulphate) soluble in alcohol. These salts smell strongly of fresh ergot. On the addition of tincture of iodine, the characteristic odour of propylamin immediately disappears, and the mixture smells of iodine. When the neutral aqueous solution of sulphate of propylamin is evaporated in a water bath, the unbearable odour of herrings is evolved; when the solution is sour, then it has the smell of ergot and all its reactions disappear. When this concentrated solution is distilled with caustic lime, without artificial heat being employed, pure propylamin passes into the receiver, which smells of ammonia and all the reactions of this alkaloid then reappear. In consequence of these properties of the propylamin, it has heretofore been regarded as ammonia; but I consider that it is the odorous principle of urine, sweat, and blood, and frequently the cause of the odour which nitrogenous substances emit when treated with alkaline solutions.

The propylamin is to be considered as a conjugate of ammonia. From my former researches, I am led to the conclusion that this alkaloid exists, combined with an acid in ergot of rye, as it is present in the pickle of herrings, but cannot be obtained by the action of potash, as is the case with narcotine. I have detected formic acid in ergot, which is probably combined with the propylamin. It is not very difficult to determine whether the peculiar action of ergot on the animal economy is due to the presence of this alkaloid, because the neutral salts are soluble in water, and may be readily administered. I have also reason to believe that propylamin is a constituent of cod-liver oil, because it combines readily with iodine, and moreover, the oil is a useful agent to administer it with.

Buchner, to whom Winckler has submitted specimens of propylamin and its salts, corroborates the above statement as to its properties, and alludes particularly to the powerful and enduring odour of herrings, which it communicates to everything. (Abridged.)—*Annals of Pharmacy*, May 1852, from *Buchner's Repertorium*. T. R. B.

61. *Combinations of Arsenious Acid and Corrosive Sublimate with Albumen.*—On the 1st of January, 1852, appeared in London the first number of a monthly journal, entitled, *Annals of Pharmacy and Practical Chemistry*, edited by William Bastick and William Dickinson, members of the Pharmaceutical Society. We *infer* that it is intended in some degree as a rival to the *Pharmaceutical Journal and Transactions*. But be this as it may, the initial number contains an angry article on the subject above indicated, and notices *pro* and *con* are to be found in nearly all those which we have since received (to May

inclusive). The subject is of vast importance in its relation to the value of antidotes, and we shall therefore attempt a selection of authorities, and avoid, except where it is necessary to an understanding of the controversy, any detail of personalities.

Dr. Sheridan Muspratt, a pupil of Liebig, Professor of the College of Chemistry, Liverpool, in the January number, after speaking in the severest and most depreciating terms of Jno. B. Edwards (teacher of Practical Pharmacy in the Liverpool Chemists' Association), for having written the following: "If water so readily extracts arsenious acid, both from the compounds formed in the laboratory, and from those which nature has prepared, surely we may conclude that its retention is simply mechanical, and affords no ground for the theory which that eminent chemist Liebig has reared upon it," says:—

"In speaking recently with Liebig upon the above remarks, he replied almost as follows: 'There will always be men ready to carp at the sayings and doings of their superiors; but if I were to take up my valuable time in answering them, I should not have any time left to devote to other and more useful purposes. I know, and you do, from experiment, that *albumen does form insoluble compounds with arsenious acid and mercury;* consequently, any repetition on my part would be superfluous.'"

In corroboration of the above, Dr. Muspratt quotes a number of authorities.

Baron Liebig's Chemistry of Physiology. (Extracts.) "Arsenious acid and mercury are the true inorganic poisons, the action of which depends upon their power of forming *permanent compounds*, with the substances of membranes and muscular fibres." "When solutions of these salts are treated with a sufficient quantity of albumen, milk, muscular fibre, and animal membrane, they *enter into combination* with those substances and lose their solubility." And again: "The action of arsenious acid and corrosive sublimate is very remarkable in this respect, *i. e.* they produce morbid phenomena by entering into combination with the organized parts of the body, therefore disturbing the functions of these parts and acting as poisons." Further: "Arsenious acid *enters into a very firm combination* with membranes and gelatinous tissues." "The arsenious acid, *combining with these tissues*, gives them the power of resisting decay or putrefaction." "It is further known that the parts of a body which come in contact with these substances during poisoning, and which therefore *enter into combination with them*, do not afterwards putrefy, so that there can be no doubt regarding the cause of their poisonous qualities." "If a vein be exposed and surrounded with a solution of arsenious acid, every blood globule *will combine with it.*"

And again: "The compounds of arsenic, which have not the property of entering into combination with the tissues of the organism, are without influence on life, even in large doses. Many insoluble basic salts of arsenious acid are known not to be poisonous. The substance called alkargeen, discovered by Bunsen, has not the slightest injurious action upon the organism; yet it contains a very large quantity of arsenic, and approaches very closely in composition to organic compounds." "All substances administered as antidotes in cases of poisoning act by destroying the power which arsenious acid and corrosive sublimate possess of *entering into combination* with animal matters, and of thus acting as poisons. Unfortunately, no other body surpasses them in that power, and the compounds which they form can only be broken up by affinities so energetic that their action is as injurious as that of the above-named poisons themselves." "When the action of arsenious acid, or corrosive sublimate, is confined to the surface of an organ, those parts only are destroyed which enter into combination with it; an eschar is formed, which is gradually thrown off." Such, says Dr. Muspratt, are the few extracts from the great German physiologist's work on this subject.

Mr. Mercer, citing his results, says, he "took 100 grains of the albumen and one grain of arsenious acid and coagulated by heat. He boiled the coagulate in water, and could only get a small stain by Marsh's test; on decomposing the organic matter, the proof was abundant. He therefore thinks that combination had taken place."

Mr. Dawson: "I took the white of a perfectly fresh egg, and mixed it with a

large quantity of dissolved arsenious acid, and triturated well for some time, then coagulated the mixture by heat. My product was a snow-white substance, possessing an agreeable smell; when washed with cold water, it gave no indications of arsenic. The residue on the filter was dried, and its organic matter carefully destroyed by sulphuric acid; the black acid fluid, when submitted to Marsh's apparatus, gave *large, bright, black stains* of metallic arsenic, a proof of the compound mentioned by Liebig."

Professor Gregory: "He performed some experiments in Dublin in 1837, which satisfied him that Liebig was right."

Sir Robert Keene: "The compound of albumen with arsenious acids, and other acids, is *somewhat soluble;* with metallic oxides, insoluble."

Dr. Anderson: "There is, in my opinion, no doubt that the metallic poisons are capable of uniting with animal matters, and this I apprehend, is perfectly well known to all toxicologists, and is the universally received explanation of their antiseptic properties."

Dr. Muspratt: "I took 0.107 grm. of arsenious acid, and 12.67 grms. of the glairy albumen of eggs. They were intimately triturated together for about twenty minutes, coagulated by heat, and evaporated to dryness in a water bath. The white residue, affused with distilled water and filtered, yielded a filtrate, which gave *no deposit* of arsenic on copper by Reinsch's test, nor any stains on porcelain by Marsh's apparatus. When the residue on the filter was heated with pure sulphuric acid, and then submitted to the preceding experiments, arsenical indications were immediately obtained, proving that a combination of arsenious acid and albumen had occurred. The albuminous compound is sparingly soluble in boiling water, so that, when affused a considerable time, *i. e.* by using quarts or gallons of hot water, the whole of the albumen and arsenious acid might, with time and patience, be washed away."

Mr. W. Gaskell, of Manchester: "I took 26,807 grammes of albumen, triturated it in a mortar, then added 208 grms. of arsenious acid, previously dissolved in about four ounces of water, triturated, coagulated by heat, and evaporated to dryness. I next pulverized the brownish-yellow residue in a mortar, placed it on a filter, and edulcerated with forty times the bulk of water previously used to dissolve the arsenious acid. I could detect traces of albumen and arsenious acid in all my washings, but never *arsenious acid alone.* I tested the residue for arsenious acid, and detected a large quantity. Now, if no compound is formed, why was not the whole of the arsenious acid dissolved out by a quantity of water, ten times more than is required to effect its solution?"

Mr. Adam J. Harrie: "30.097 grms. of albumen were triturated for some time. I then added 0.307 grm. of arsenious acid, previously dissolved in about three ounces of water, triturated them together for half an hour, coagulated by heat, and evaporated to dryness at 212° F. The brownish residue was then pounded and washed with about forty times as much water as was used to dissolve the arsenious acid. I detected arsenious acid and albumen in all the washings. Arsenious acid was also detected in the residue by Marsh and Reinsch's tests, which evidently shows that a very firm combination of arsenious acid and albumen was formed, frugally soluble in water."

Mr. R. W. Forster, of Whitehaven: "I weighed out 36.24 grms. of albumen of eggs, and triturated them for some time in a mortar. I then dissolved .415 grm. of arsenious acid in about five ounces of hot water, allowed the solution to cool, and added it to the albumen in the mortar. The mixture was next triturated for twenty minutes, coagulated, and evaporated to dryness in the water bath. The dry residue was then reduced to powder, thrown on a filter, and washed with boiling water until no arsenious acid could be detected in the filtrate. In the whole of the washings (which amounted to nearly a gallon and a half), albumen was detected, and in the first portions, arsenious acid also in considerable quantities. When the washing was completed, the residue on the filter was boiled with pure sulphuric acid, and submitted to Marsh's test, but no arsenical indications were obtained."

M. Dumas, in treating of the combinations of albumen and metallic oxides, remarks: "These combinations are difficult of decomposition, and the metallic oxide *can only be entirely separated* by destroying the animal matter. The mer-

cury compound is soluble in several saline liquids; therefore, when white of eggs is used as the antidote to the poisonous effects of corrosive sublimate, chloride of sodium should be avoided, in order to prevent the solution of the compound in the secretions of the stomach."

Berzelius states: "Sulphate of albumen is almost formed when albuminous solutions are precipitated by an excess of sulphuric acid; *it may be decomposed* (evidently showing that combination has taken place) and the acid abstracted by carbonate of ammonia. Even after continued washing, sulphuric acid and albumen may be detected in the coagulum."

Thornton J. Herepath (in one of his experiments): "499 grains of the glairy albumen of eggs were taken and intimately mixed by long-continued trituration, with three grains of arsenious acid; the latter having been previously dissolved in a quantity of water sufficient to effect a perfect solution. The mixture was then coagulated by heat, and afterwards carefully evaporated to dryness on a water bath. The yellowish residue *thus obtained was reduced to a very fine powder in a mortar, and repeatedly digested for several hours together in boiling water*, care being taken to reduce the compound to a still *more minute state of division by patient trituration in a mortar, after each digestion*, &c,; the washings, on being tested by Reinsch's process, were found to contain a large portion of arsenious acid. The insoluble residue, having been digested in water, for about *twelve or fifteen hours*, as before described, was dried and weighed. It amounted to about twenty-nine grains. It was then boiled with strong hydrochloric acid, when it dissolved with the characteristic colour of the protein compounds. Upon testing this solution in the usual manner, *only exceedingly minute traces of arsenic could be detected.*"

All the above are quoted by Dr. Muspratt with approbation, except the last. The mortar and pestle, and hot-water operation, only go to show (as he says) that the compound has not been a *perfectly insoluble one.* Sulphate of lime is insoluble; so is glass; yet if either be reduced to powder in a mortar, and treated repeatedly with boiling water, traces of dissolved particles will be found.

In the February number, Mr. Edwards refuses to reply on personal grounds. Mr. Herepath, in his answer, states the following matters bearing on the point at issue. While Liebig and his followers assert that arsenious acid and albumen combine in atomic proportions, and thus form a true chemical compound —an arsenite of albumen—his opponents contend that the action is merely mechanical—that the small quantity of arsenious acid which is abstracted from the solution by the albumen, is enveloped, so to speak, by the latter substance, or condensed upon the surface of its molecules, just in the manner as the feculencies are abstracted from saccharine syrups, in the well-known process of clarification, or as iodine and certain alkaloids are separated from their solutions in animal charcoal.

Now, in the paper of Dr. Muspratt, according to experiments there described, every 100 grains by weight of the glairy albumen of eggs combine with 0.632 grs. of arsenious acid. But Mr. Herepath found that when 438.5 grs. of albumen were intimately mixed with 0.25 grs. of arsenious acid—that is to say, with only about the one-tenth of the quantity mentioned by Dr. Muspratt—and the mixture was coagulated by heat, evaporated to dryness, and exhausted with boiling water: the filtrate, even that portion which *first passed through the filter*, and before the mortar and pestle were used, was found to contain a large proportion of arsenic.

Again, in reply to Dr. Muspratt's examples of sulphate of lime, glass, &c., on being reduced to powder and dissolved, giving out some of their constituents, Mr. Herepath says, that glass, for instance, consists of several earthy and alkaline silicates, some soluble in water and others not, and the natural effects of long digestion in water are that small quantities of the former are dissolved out. But *solution* is not *decomposition.* "Now that the arsenite of albumen or albuminate of arsenious acid (if such a compound *does* exist) is decomposed by boiling water, I consider is clearly demonstrated by my experiments, and by those of one of his supporters, Mr. R. W. Forster, of Whitehaven."

The presence of minute traces of arsenic in the residuary matter is to be ex-

plained from the almost impossibility of removing the last traces of a foreign body even from a simple inorganic precipitate, and still more from an albuminous coagulum, where the contaminating ingredient is enveloped, so to speak, in an almost impenetrable covering.

Mr. Herepath concludes by stating that Dr. Muspratt has omitted to notice the fact, that a cat, to whom the arsenite of albumen had been given, died from its effects. According to the Doctor, the compound in question is not poisonous.

We come next, in the April number, to the rejoinder of Dr. Muspratt: "I contend (he says) that plate glass being slightly soluble in water, is quite an analogous case to the albumen compound. *Both are soluble in boiling water; neither are decomposed.*"

Mr. Herepath alludes to my not mentioning "the action of the so-called arsenite of albumen on the animal economy; I have repeatedly stated that it is not poisonous, to which statement I still adhere; and if Mr. Herepath will properly prepare the *compound*, he will also find it innocuous. If I am wrong, I am wrong in very eminent company. In conclusion, I have only to add, that white of eggs contains *free alkali*, which combines with the arsenious acid; consequently, if Mr. Herepath got a poisonous compound, it is the arsenite of soda, and not the arsenite of albumen."

Lastly, we have the reply of Mr. Herepath, in the May number:—

"The presence of free alkali in the albuminous portion of the egg is an established fact, and cannot therefore be disputed, but it still remains to be proved that any arsenite of potash or soda is formed, when arsenious acid is boiled with white of eggs. If such be the case, how is it possible to account for the absence of all traces of arsenic in the following experiment, described by Dr. Muspratt (*Quarterly Journal of the Chemical Society of London*, No. 14.) I took (he says) 0.107 grm. of dissolved arsenious acid, and 12.67 grms. of the glairy albumen of eggs. They were intimately triturated together for about twenty minutes, coagulated by heat, and evaporated to dryness in a water bath. The white residue, affused with distilled water and filtered, yielded a filtrate, which gave no *deposit* of arsenic on copper by Reinsch's test, nor any stains of porcelain by Marsh's apparatus.

"The most convincing argument I may draw (continues Mr. Herepath), that can be urged against the existence of a definite compound of arsenious acid and albumen is the non-formation of any precipitate upon mixing cold aqueous solutions of these two substances. For it is well known that tannic acid—a much weaker acid than the arsenious acid—immediately produces a dense precipitate of tannate of albumen, when added to albuminous solutions."

Here ends the discussion in the numbers received. Both of the belligerents promise to resume their investigations, and publish the results.

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62. *Ferrate of Potash as an Antidote for Arsenic.*—CHATTEL has found that one drachm of ferrate of potash precipitates, in an insoluble form, forty grains of arsenic, and that the hydrated peroxide of iron is much less effectual, as one ounce of it only precipitates five grains of arsenic; consequently, he recommends the above salt as an antidote. Whether the strong alkaline action of the ferrate will prevent its being so used, remains to be seen. It has not as yet been given in a case of poisoning.—*Annals of Pharmacy*, May, 1852.

T. R. B.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Extraordinary Precocity in the Development of the Male Sexual Organs and Muscular System in a Child Four Years Old. By ROBERT KING STONE, M. D., Professor of Physiological Anatomy in the National Medical College, and one of the Surgeons of the Washington Infirmary. (Read to the Pathological Society of the District of Columbia.)

I have the honour to present to the Society one of the most extraordinary cases of precocious development of the male sexual organs and general muscular system now on record.

Mr. Charles S———, of this District, brought his son, Theodore, to my house on the 14th of September, 1852, his birthday, for my inspection and opinion; stating that on that day he was four years old. I at once declared my incredulity, for his height and robust development seemed those of a child at least six years older than the age he mentioned. My astonishment was greatly increased, when, on stripping the boy, he offered to my view the well-developed sexual organs of a man, and the pubes covered with a luxuriant growth of hair.

I was perfectly incredulous that the boy was born on the 14th of September, 1848; but his father said he could produce his certificate of nativity, and that he, with his mother, the midwife who delivered him, and fifty other responsible persons, would swear that he had stated his age correctly.

The boy is remarkably handsome, and when stripped, presents a form of great beauty, which is, in fact, a miniature model of a perfectly developed athletæ.

The condition of his muscular and osseous system is extraordinary; the deltoids and other muscles of the arm, forearm, back, and thorax, have the same relations to his height that those of a hard-labouring man would have of the stature of six feet. The muscles of the thigh, gluteal region, and leg, are perhaps better developed than those of the upper extremity, but in nearly the same ratio to the height.

If the child's face is concealed the examiner would declare his figure to be that of a miniature man, perfectly developed, and at least 21 years of age.

There seems to be little adipose tissue about him, the muscular prominences being clear, and well defined, as if produced by constant exercise or hard labour.

The growth of hair is distinct in the axilla, but by no means so marked as that upon the pubes. As in very robust men, the lumbar and sacral regions are covered with a thick down of dark hair.

His height is now four feet one-quarter inch, and weight nearly seventy pounds; though his mother informs me he weighed seventy-five pounds in the spring, and attributes his diminution to the great number of lumbricoides which infest him.

His penis is that of a well-developed man, measuring in a semi-flaccid state four and a quarter inches in length, and in the state of perfect flaccidity three and a half inches. The prepuce is short, leaving exposed a perfectly formed glans penis. I might state, also, that the papillæ of the corona glandis are in a state of hypertrophy, being distinctly salient, and exquisitely sensi-

tive. The pubes are covered with a luxuriant growth of crisp, curling, dark-brown hair, as found in the adult state. In the scrotum, presenting the appearance of the adult, are two firm, apparently well-developed testicles, perhaps rather under the average size of those organs in the adult. Independently of the penis, the development of these alone would have been decidedly remarkable at that tender age.

The spermatic cords are distinct, and under the finger give the impression of perfect organs.

Carefully examined from the neck down, the appearances are those of a *perfect man*, whilst the head and face were those of a child. On examining his mouth, it was found to contain only the twenty deciduous teeth of his age, with the exception of the middle incisors of the upper jaw, which were carious to the fangs.

The head was perfectly formed, and bears a proper proportion to the development of the body.

The breadth between the ears across the cerebellum was great; in fact, the anterior development of the cranium was less than the posterior; yet the relation could not be called bad at his early age.

The boy is lively, and seems intelligent, though his speech is imperfect, but he pronounced with facility after his father. He seemed unwilling to talk of his own accord before strangers; his father informs me, however, that he is very talkative at home and quite intelligent. His temper is good, and he is almost always in good-humour, but when excited by anger, his father alone can manage him, which he does by an old-fashioned, knock-down blow.

His father observed last night, when he slept with him for the first time, a constant erection of the penis, accompanied by a nickering, like an excited stallion, and for these reasons consulted me.

The boy has almost always slept by himself, and on a hard pallet on the floor. His back and shoulders are covered with the *acne simplex* of puberty. He has never been known to attempt masturbation, nor is it known whether he has had sexual relations, although the organ has that appearance. The slightest touch of the penis excites it, and the organ becomes tumid and of the average adult size, during the requisite examination.

The voice is that of puberty, and has been so for some time.

On the 15th of September, I visited him, accompanied by my friend and colleague, Professor John Frederick May, who verified the preceding examination and my measurements.

He is the seventh child and third son of his mother; weighed eleven and a half pounds at birth, and fifty-six pounds at three years.

At birth, the glans penis was perfectly uncovered, and the hair on the pubes half an inch long; at one year, things were just as they are now.

Around the thorax under axillæ, he measures 2 feet 1¼ inches.

"	hips	"	"	2	"	2¾	"
"	thigh (middle)	"	"	1	"	2	"
Penis in semi-flaccid state		"	"			4¼	" long.
"	flaccid state	"	"			3¾	inches *full* in circumference.

Around the arm, below insertion of the deltoid muscle, he measures 8 inches.

Around the neck he measures 1 foot.

Around the head (above ears and over hair) he measures 1 foot 8 inches.

From meatus auditorius to meatus of opposite side across the occiput, he measures 9¾ inches.

Although his neck is full, there is no remarkable development of the laryngeal cartilages, Pomum Adami.

The next question is in regard to the power of the testicles to secrete. Since I first saw this man-boy, his father has made inquiry as to this fact, and states the following to me as the result:—

On the 13th of September, he slept with a near relative, a married lady, the mother of several children. In the middle of the night, she was aroused by finding the boy closely clasped to her back, and her night dress saturated. She thought he had emptied his bladder upon her, but on carrying her hand to the part, she found that it was saturated with a *very different and glutinous material* from that she expected.

I regret that I could not obtain the ejected matter to submit it to a microscopical test. The boy is extremely fond of embracing the opposite sex, though nothing further has been ascertained. In no other of the seven children borne by the same mother has the same condition been observed, and in comparing an elder sister of 10 years, I found she was extremely delicate, and only half an inch taller than Theodore.

I have several times seen him during an attack of nickering, and am satisfied that it is produced by a tendency to epilepsy.

Since writing this account, I have been furnished by Dr. W. A. Williams with a certificate, stating that he has known the family of Charles S——— for the last seven years; that he knows Theodore was born in September, 1848; that he saw Theodore when a very young infant, in the arms of his mother, and knows, from having seen him almost every week since that time, that he is the same child who was presented to the Pathological Society of the District of Columbia, by Dr. R. K. Stone, on Friday, Sept. 17, 1852.

Further, Dr. Williams states that he has attended the family professionally for about eighteen months, and was a student of medicine at the time Theodore was born; and that he was first aware of his precocious sexual development in January 1852, from actual inspection, though he had been informed of it at an earlier date.

In terminating this simple statement, I may observe that the father presented extreme precocity, having experienced his first sexual indulgence at the age of 8 years. He informed us that between the ages of 10 and 13 years he was a *better man* than he has even been since. Delicacy forbids my detailing his prowess at that early age.

This extraordinary case will be perfectly under control for some time, and I will most willingly make any further observations which may be dictated by better heads.

It will be observed, that this is perhaps one of the most extraordinary cases on record, and I will now proceed to a hasty examination of a few of those to which reference has been made for me, in an exceedingly brief space of time, by my friend, Dr. R. D. Coolidge, U. S. A.

Precocious Puberty in Males.—1. An Account of a Child 3 Years Old. By Gilbert Breschet, M.D. *Philadelphia Journ. of the Med. and Phys. Sciences*, 1821, vol. iii. pp. 417–18. James A. Sarin, born 20 October, 1817; 3 years and one month old at report; weighs 50 pounds, 3 feet 6¾ inches high; penis when flaccid, 4 inches long, and 5¼ when erect. Testicles *not enlarged* in proportion to penis.

2. *Good's Study of Medicine*, p. 73. N. Y. edition of 1829. Boiset, in the *Journal des Savans*, gives a case of a boy 3 years. *Philosophical Transactions*, 1745, boy 2 years 11 months. These were cases of great salacity, and no description given. Mr. Dankes, of St. Ives, near Huntingdon, reported the "Prodigium Willinghamense." The boy was buried at Willingham, and his

epitaph was, "Born October 31, 1741, died September 3, 1747. At one year had signs of manhood, not 3 years was nearly 4 feet high; stupendous voice, and he died of premature old age."

3. Pliny (*Hist. Nat. Lib.* 8, c. 17), reports a boy at Salamis 4 feet high, and attaining puberty at 3 years.

4. The case seen by Craterus, brother of Antigonus (*Phlegon, De Mirabilia*, c. 32), who was infant, youth, adult, father, old man, and corpse in 7 years.

5. *Milburger's Curiosities*, several cases.

6. Case reported by A. Lopez, M. D., of Mobile. *Amer. Journ. Med. Sciences*, vol. v. 1843, p. 500. Mulatto boy aged 3 years 10 months, and 15 days; weight 82 pounds; height 4 feet half inch; width around chest 27½ inches; belly 27 inches; thigh 19 inches; arm 9½; circumference of head 22 inches; length of penis at rest 4; circumference 3½; his scrotum has a fair proportion to the other developments; but the *testes* have not descended; has whiskers; axillæ hairy; teeth 20, and *deciduous;* lifts a man of 140 pounds; covered with *acne simplex* (as Theodore S——— is) of puberty. Has spermatic odour, but not known whether he has venereal appetite; judge from stains on his shirt.

To these, I could add from *Beck's Med. Jurisp.*, p. 519, vol. i. 1838, several cases in both sexes.

Very many cases of precocious development in the female might be adduced; but to them I do not care to draw your attention; it is only necessary to recall the fact that the mother of a family on the banks of the Ganges need only be 9 years of age.

There has been no time to investigate this subject fully, but I think it will be difficult to find a case comparable to the one which I now present you. In most of the cases to which reference has been made, there is something wanting; and when we examine the totality of the appearances, there is not one, except the case described by Craterus, which approaches the proportion of Theodore S———.

Washington, D. C., *Sept.* 1852.

Case of Secondary Hemorrhage of the Femoral Artery and Successful Ligation of External Iliac. By Drs. Bowie and Hastings.—Brown Smith, Esq., was shot through the middle of the left thigh, in Stockton, with a pistol ball, on the 13th of April last. He lost a great deal of arterial blood, at the time, it was said, and once again when bleeding took place in bed. The limb was bandaged tightly at the time of the wound, and the bleeding ceased. Four days after, he was brought to San Francisco. In twenty-four hours after his arrival, a large pulsating tumour was perceived in the site of the inner wound, directly over the track of the femoral artery, the pulsations of which ceased upon pressure being made over the femoral just as it passes over the ramus of the pubis. It was determined to take up the femoral above the origin of the profunda, which operation was performed by Dr. Bowie on the 18th inst., assisted by Dr. Hastings. The patient went on well, and the wound looked healthy; the ligature came away on the ninth day, and no hemorrhage occurred, but an impulse was communicated to the wound by arterial pulsation. Five days after the ligature came from the femoral artery hemorrhage from this vessel took place, and notwithstanding there was a friend constantly by him who was prepared for the emergency, he bled until he was in a perfect bath of arterial blood, and the assistants were bespattered with blood from head to foot; Mr. Smith, almost pulseless, with countenance pale and anxious, complained of vertigo, and of being scarcely able to see. Firm pressure was applied to the femoral artery as it passed over the ramus of the pubis. In this state, Dr. Hastings was called in (Dr. Bowie having gone out of town), about 7 A. M., the 2d of May last. Assisted by Drs. Mills and Nott, Dr. Hastings cut down upon the external iliac artery

and ligated it about two inches below the bifurcation, brought the wound together by adhesive straps and applied cold water to the wound; kept the wounded limb surrounded by bottles of hot water, and supported the patient with brandy.

May 2, 12 o'clock. Has violent twitching of limbs when dozing or when waking from sleep; skin cold and clammy; left limb exceedingly cold; features pinched, countenance anxious, pulse fluttering; continued brandy and water alternated by a nutritious soup.

3*d*. 7 A. M. Complained of pain in the groin and lower part of abdomen, pulse fluttering; there is rather a free dark bloody discharge from bullet wounds in thigh; limb cold. 1 P. M. Complains of pain about the umbilicus; great thirst. Treatment continued; allowed to chew ice. 8 P. M. Passed urine freely of light colour; an enema of water brought away a small quantity of good fecal matter, all other conditions the same. Treatment continued.

4*th*. 7 A. M. Nervous startings increased; complains of more pain; left limb very cold, skin generally cold, pulse fluttering; dozes a good deal, has had profuse sweats during the night. Treatment continued. 1 P. M. No change; wounds in groin and abdomen discharging pus; skin less cold; pulse fluttering, but can be counted at about 40 in the quarter minute; pain about umbilicus still continues. 1 A. M. Still the same; a slight fecal discharge by water enema; urinates freely.

5*th*. 7 A. M. Pulse 30 to 35 in the quarter minute, but imparting a vibratory impulse to the touch; skin and left limb not so cold; perspiration less profuse, and nervous and muscular startings less violent; sleeps a great deal; complains of a strange sensation about the head, fears he is losing his mind; countenance anxious. Treatment continued. 1 P. M. Wounds discharge pus freely; pulse becoming more steady, withdrew artificial heat from limb and reduced the stimulant. 8 P. M. Pulse 25 to 30 in the quarter; skin more natural; left limb remains of good temperature; bullet wounds in thigh discharge less grumous matter, the others suppurate moderately and look well; feels comfortable, but complains of not being able to sleep; has no pain. 1 A. M. Reapplied artificial heat to left limb during the night, has dozed comfortably.

6*th*. 7 A. M. Slept well during the night; had a good passage this morning by injection; skin more natural and moist; pulse 25 in quarter minute, soft and comparatively full; has some appetite, and expresses himself well; countenance tranquil; withdrew artificial heat and stimulants, increased diet by eggs and oysters. 1 P. M. Wounds suppurating freely and looking well; symptoms all favourable.

7*th*. 8 A. M. Slept well; has a good appetite, and feels perfectly comfortable.

Put him upon full nutritious diet, and administered daily a water injection. From this time out he went on improving without an uncomfortable symptom; the ligature came away on the twenty-second day, and in a short time he entirely recovered.

On the Duration and Extent of the Protective Power of Vaccination. By O. C. Gibbs, M. D., of Perry, Lake County, Ohio.—The question concerning the duration and extent of the protective power of vaccination, has from time to time, since the days of the illustrious Jenner, engaged the serious attention of the medical profession. As yet, the anxious question remains unsettled. Dr. Gregory, of London, as well as others, have of late been trying to shake that confidence which the sanguine predictions of Jenner inspired. Among

the conflicting opinions, the public are anxious to know which is the right; are anxious to know what is the *extent and duration* of the protective power of vaccination.

Dr. Gregory asserts that the protecting power of vaccination is far less than of variolous inoculation; and also, that the comparative slight safety which it offers is but *temporary* in duration.

It would seem as though the combined experience of the medical profession might set this question forever at rest, if that experience was based upon unexceptionable observation. My experience, like that of every country practitioner, who has numbered but a few years of practical observation, is slight, yet such as it is, it bears directly upon the question under notice.

In the winter of 1850, I was called to see a boy who had never been vaccinated, and in whose case the variolous eruption was just making its appearance. There were six other members in the family, varying from two to forty years of age, all of whom had been vaccinated but the two youngest, whose ages were, respectively, two and four years. The parents had been vaccinated when young; I had been vaccinated when but eight years of age, and neither they nor I had been revaccinated, neither were we. On the following day, I vaccinated those who had not previously been, with vaccine matter which was several years old. The vaccine disease was produced in the oldest of the two, but not in the younger. On the third day from the first vaccination, I revaccinated the younger, and the vaccine disease failing to appear, on the third day from the last vaccination I performed variolous inoculation; but, fortunately, on the following day, the vaccine disease was manifested through the first vaccination, and it run its regular course, rendering the variolous inoculation abortive. This child, the rest of the family, and myself, all escaped the disease. There was but one room in the house, and that confined and filthy.

The mother was four months pregnant, went her full time, and was delivered of a child presenting no marks of previous disease.

Since the above, I have attended one case in a family of five persons, all of whom had been vaccinated but the subject of the disease. The remainder of the family escaped the smallpox, though the parents had been vaccinated for at least thirty years, and had never been revaccinated.

Here are persons repeatedly exposed with impunity to the variolous contagion, who have had the vaccine disease thirty years before, and others, with equal impunity, who took the cowpox eight days after the smallpox exposure.

These facts, of course, are too limited from which to draw a safe conclusion; yet, they induce us to hope that an accumulation of closely scrutinized observations may lead us to a more favourable conclusion than that advanced by Dr. Gregory and his compeers in opinion.

PERRY, LAKE COUNTY, OHIO, *August* 20, 1852.

Cure of Consumption by Cod-liver Oil. By JESSE YOUNG, M. D., of Chester, Pennsylvania. (In a letter to the Editor.) In the January No. of this Journal, for 1849, the writer of this article reported a case of consumption cured with cod-liver oil. Since the report of the case, the subject thereof has passed through two severe attacks of epidemic catarrh, and with as little difficulty as did others who had never suffered from lung disease. She, however, in both attacks, on account of the persistence of the cough, resorted, for a week or two on each occasion, to the use of the oil, with entire relief. She has been cautioned, repeatedly, not to neglect catarrhal affections when attended with cough, however slight other symptoms might appear; partly on account of what she has passed through, but particularly on account of the *period of life*, at which she has fully arrived; several months have gone by since the

disappearance of the catamenia, and as yet she does not appear disturbed by the change. Her health is as good as ever it was; there is, however, she thinks, rather more tendency to cough from slight causes than formerly, but she has nothing like a fixed cough, nor anything else different from other persons who enjoy the most robust health. About two months ago, I auscultated her chest. I found in the left axilla, where the cavity had been, an indurated spot, perhaps one inch, or an inch and a half in diameter; around it, for something like two or three inches, rather loud (puerile) respiration. In no other part of the lungs was there discovered anything variant from natural sounds.

Medicine has rarely effected a more complete triumph over extreme disease than in this instance. This is the first case, so far as my knowledge goes, of the use of that article, in that form of disease, in this country. The apothecaries of the city knew nothing of the article; and when "white cod-liver oil" was inquired for, many of them said they had never heard of it, and knew not what it was. Since that time, however, it has become common enough, and there is reason to believe that there have been as many gallons of the oil sold, as there have been codfish caught. When unadulterated, its effects, in cases to which its use is at all adapted, are such, that it has gone on increasing in the estimation of the faculty, until it has become one of the standard articles, ranking not inferior to any of our other most valuable medicines.

Since 1849, the writer has used it extensively, not only in diseases of the lungs, but in different forms and stages of scrofulous affections, marasmus of children, the sequelæ of measles, pertussis, catarrhal and other forms of fever, where the strength of the patient was far exhausted, with loss of appetite, night-sweats, pain in the bones, and restless, uneasy nights, and where I should scarcely have known what else to recommend, and in no instance has it disappointed my expectations. In several cases of marasmus, in children from three months to four or five years of age, where iodine in every form, syrup of sarsaparilla, &c. &c., had failed entirely, the cod-liver oil has changed the state of affairs, and its use for two, three, or four weeks has restored the children to health, without the use of any other means. In coughs, and debility consequent on the effects of catarrh in old persons, no other article can compare with it. And yet it is not a *catholicon;* it certainly requires discrimination to derive the best effects from it, and to know the forms of disease to which it is applicable; and for want of this, some of our physicians ridicule it even now, because they have recommended it in some few instances, without judgment or discretion, and they have not seen any good come of it. If this rule of condemnation is to be applied to every article in which we are disappointed in its producing the expected results, where shall we find our remedies for any disease? Who has not been disappointed in the use of mercury, even in syphilis, without referring to hosts of other affections; and of iodine, in scrofulous tumours and ulcers; and even in the effects of cathartics, in their producing emesis, and the reverse? And yet we do not banish them because they disappoint us. Certainly, by means of this article alone, or as an adjunct to others, many cases of disease hitherto incurable can be cured entirely; and many others, where perfect cures cannot be effected, life may be prolonged for months or years, which could not be done without it. The writer is accustomed frequently to prescribe whatever other articles may seem indicated in the progress of a case exactly as though the oil were not in use. Lugol's solution, or hydriodate of potassa, or calomel, even to affecting the gums slightly, and keeping them tender for weeks; cough mixtures, of whatever kind were deemed best, all by turns have been used with the oil; or some-

times suspending it entirely for a time, when the indications for its use were not evident, then resuming it, *but not for the sake of using it*, but to meet some particular indication, exactly as any other article could be used. In this way, I have produced results entirely beyond anything I could have reasonably anticipated, in many cases, and which could not have been produced without the oil.

CHESTER, *May* 25, 1852.

Remedy for Intussusception of the Bowels. By A. S. BALDWIN, of Jacksonville, Florida. (Extract from a letter to the Editor.) Having recently seen in the medical periodicals, several reports of *post-mortem* examinations, in cases of intussusception of the bowels, I am induced to send you an account of a rather simple, but what appeared to me a very effectual remedy for this complaint, in a case which came under my care about four years ago, when I had despaired of affording relief by the ordinary remedies. If it shall seem to you to have sufficient merit, it may, perhaps, by giving it publicity in your journal, induce other members of the profession to give it a trial. During the last fifteen years, several cases of this complaint have come under my observation, most of which terminated fatally. The various remedies recommended were applied; among them the long elastic tube, for the purpose of throwing fluids high up into the bowels, with the hope of distending them so that the vaginated folds of the intestine might be drawn out. In some instances, at least, its use appeared to be productive of mischief, from passing through the constricted part of the intestines, so that the fluid injected was lodged in the pouch or sack existing above the point of obstruction; to ineffectually increase the distension already existing there; for, when the tube was withdrawn, no fluid was returned, and the distension was increased without having the effect to remove the difficulty. Injections administered by the common syringe were returned immediately, even while giving them, and had no effect to distend the lower bowel so as to aid in overcoming the obstruction, and the conclusion arrived at was, that adhesions existed between the folds of the invaginated parts of the bowel, and the obstruction was irremediable.

Circumstances which have occurred to me, dispose me to think that these adhesions do not take place so early, or so frequently, as many are disposed to believe. About three years ago, a case of this kind occurred in my practice, and for several days all the appliances which had been recommended had been used to overcome the obstruction, but without avail. There was a circumscribed spot, to the left of the umbilicus, and a little below it, which was painful; there was considerable distension of the abdomen, with a sensation of soreness across, but which did not amount to pain (being what is called in this country "*misery*"). Twice in this case the long tube was used, and injections thrown high up into the bowels, which, however, did not return upon the withdrawal of the tube, but added to the swelling previously existing above the point of obstruction. I was apprehensive that adhesion had by this time taken place, and as I despaired of relief by the ordinary methods, and the patient had arranged his temporal affairs and given himself up to die, I determined to distend the lower bowels, to their utmost capacity, by the injection of warm water.

An ivory tube, having a shield around it, was introduced and passed up until the shield was pressed up against the sphincter ani, a cloth was wrapped around this and pressed up firmly; the tube was now connected by an elastic tube with the pump, which was placed in a wash-basin of warm water, which was slowly injected into the bowels, pressure being kept up to prevent its return. Another

basin of water was brought, half of which was thrown up. The abdomen was, of course, much distended by this quantity of fluid, and considerable rumbling and commotion of the bowels were produced, the pain at the point of obstruction was, for a moment, acute, causing the patient to cry out. The pressure and tube were removed, and we found he had the power to retain the injection until he could be helped to the chair, when about five quarts of the injection was passed; becoming faint, he was laid upon the bed, and brandy and water administered; he soon rallied, and passed as much more, coloured by fecal matter; soon after, a copious and regular, but very offensive stool was had, in which the oil, taken several days before, could be distinguished. After this, he had no farther difficulty, except debility, and a sensation of soreness at the point of obstruction, which lasted for a few days, when he returned to his work, that of a carriage-maker, and up to the present time has had no return of the complaint. Since that time I have not had so severe a case of this complaint, but in every case which shows a disposition to be obstinate, I resort to this mode of injection, with uniform and immediate success. Perhaps some of these would have been as obstinate as the one above detailed, if the former mode of treatment had been pursued; but I am fully impressed with the belief that, had this remedy been used with those cases which had proved fatal, some of them, at least, might have been saved. The case in which I first tried it was an unpromising one, on account of the long time which had elapsed since the attack before the remedy was used, sufficient for adhesive inflammation to have agglutinated together the folds of intestine involved in the intussusception.

JACKSONVILLE, KENTUCKY, *June* 3, 1852.

Obstruction of the Rectum by the Impaction of a number of Plum-stones which had been swallowed.—By R. HAZLEHURST, M. D., of Brunswick.—A strong, able-bodied negro, aged about 25, working on a canal near this place, took it into his head to eat very freely of plums, stones and all, as he says (and probably truly), without eating anything else during the day, and at two different times. Not apprehending much of consequence, a dose of castor-oil was directed, and this not having proved effectual in removing the symptoms, I had recourse to artificial means, the introduction of the forefinger with the intention of scooping them down with it. In this I might have succeeded, if I had not been prevented by the soreness of the rectum, and the inability of the patient to bear the least pressure, on the plum-stones now come down. By the continued straining and ineffectual attempts at defecation, they were completely impacted in the rectum, in the same manner that buckshot, well-chambered in a smooth-bore gun, cannot be removed by inverting or shaking the barrel. I got out four or five by several enemas of cold water, and six or seven with the finger. But the latter proceeding was so painful to the patient that he ran off into the woods. I left directions for him to take a dose of oil the next day, which brought away some more, but purged him excessively; and on the third day, when I saw him, he was much reduced, and in a state of desperation and great suffering. I examined the rectum, and found it in *statu quo*, completely plugged up with the plum-stones, only allowing liquid feces to pass through their interstices. After having tried an injection of warm water and oil without effect, I introduced my finger with the intention of removing them one by one; but as soon as I touched one with the finger he jerked away, said he was going to put on a clean shirt, and ran off again. An attempt was made to bring him back; but he appeared maddened by his sufferings, and it was found impossible to get hold of him. The next day, the fourth from his first complaining, it was feared, from his non-appearance, that

he had been drowned by the tide flowing up and covering the salt marsh where he was last seen, and on which it was probable that he had laid himself down. Search was made for him for several hours, and he was at last found lying on the ground, so much reduced from hunger and suffering that he was unable to move, and had to be carried home. There was now no time to lose. I put a previous threat into execution, had him tied, introduced my finger, and sliding a pair of forceps, rounded and grooved at the extremities, alongside, was steadily employed, for the space of three hours, in removing the plum-stones one by one, until no less than one hundred and thirty were counted, besides some forty that he passed afterwards, and more before, which last were not counted, but must have made them altogether amount to two hundred and eighty plum-stones. I do not know what measure of plums these would make, but I suppose about a peck. The extraction of each stone occasioned exquisite pain, and the patient requested rest after every two or three were removed. Most of them were covered with blood, and would doubtless soon have brought on ulceration in the gut. Dysenteric symptoms, as might be supposed, have ensued, which ceased with the removal of the cause and appropriate treatment.

P. S. The patient is almost well, and by measurement it is found that he must have eaten almost ten quarts of plums, say a peck, at a moderate calculation.

Brunswick, *June* 20, 1852.

Tumour connected with the Spleen mistaken for Ovarian. Incision in Linea Alba below Umbilicus. Adhesion. Introduction of Tent unsuccessful. By David Prince, M. D., of St. Louis, Mo. (Read before the St. Louis Medical Society.) Visited (July 10, 1850) Mrs. Simpson, of Calhoun County, Illinois, aged about 40. Married, but childless; menstruation never has been materially deranged; has felt a tumour in her left side for four years. At first, she said, it was small, and confined to the left iliac region; but as it grew larger it became movable to the other side, and rose higher. Difficulty in retaining the urine followed, and at this date there is great impairment of health.

The tumour was somewhat painful over its lower part and left side, but not elsewhere. It moved freely from side to side, and while the patient was lying upon her back, the tumour was easily made to pass into the umbilical region, and even into the epigastrium. Its favourite position was the left side, extending from behind the false ribs to the iliac fossa. An apparent fluctuation existed in the lower portion of the tumour, but no semblance of this could be detected in the upper. No uterine sound was employed as a means of testing the question of the connection of the tumour with the uterus.

Diagnosis.—An ovarian tumour, probably solid, in whole or in part.

Indication.—An exploratory incision to remove the tumour, if ovarian and free; to leave it untouched, if extensively adherent; and if the adhesion should be at the point of the incision, saving the peritoneal cavity from being perforated, to introduce a tent, and leave the tumour to waste itself in suppuration.

Operation.—An incision two inches in length was made in the linea alba, midway between the umbilicus and the pubes. The omentum came into view adherent upon its anterior surface to the abdominal parietes, and loosely upon its posterior aspect to the anterior surface of the tumour. So extremely loose was this adhesion that the tumour seemed ready to roll away from the incision, yet without discovering any communication between the incision and the peritoneal cavity. The tumour, however, was readily retained in its place by pressure above and around. A trochar introduced into the tumour brought

nothing away, a few drops of blood only issuing through the canula. The canula was made to pierce the tumour in various directions, breaking down its substance with a crackling sound, and still only very little blood flowed. The substance of the tumour was cut into and torn by the finger, and still but little blood came.

A tent was then introduced into the wound, two stitches employed to unite the lips at their extremities; a compress was laid on, and secured by a bandage.

Chloroform was employed, but was slow and imperfect in its effect, about an ounce and a half having been poured upon the sponge through which the patient inspired. Only an unquiet stupor was produced, from which she awoke with an imperfect memory of what had taken place.

Prognosis.—It was hoped that inflammation and suppuration might secure the complete destruction of the tumour, as was the case with Mrs. Cooper, whose case was reported in this Journal, July, 1850, page 267.

Result.—The case was left under the care of Dr. Whiting, of Rockport, Illinois, who subsequently reported that no untoward symptom occurred for four days, the patient being cheerful, and even sanguine of recovery. Upon the fifth day, sudden prostration occurred, the pulse became fluttering, the respiration difficult, and death resulted.

Autopsy.—There was a large tumour, loosely adherent upon its anterior surface to the abdominal parietes, and connected by a narrow pedicle to the spleen. The uterus and its appendages presented their usual appearance. There was no inflammation of the peritoneum, or effusion therein. Dr. W. could not tell what was the immediate cause of death, but has no doubt the patient died somewhat sooner for the means resorted to to prolong her life. As she had chosen the operation, however, with a full knowledge of the risk incurred, preferring a speedy death to a longer protraction of her sufferings, with no hope but from this means, the result was one she had calmly contemplated; the wishes of the patient were realized—a death "speedy and easy, if it must come."

No opportunity was, in this case, afforded the medical adviser to examine the tumour in the progress of its growth. Had there been, the growth would probably have been found to be from above downwards, instead of being from below upwards, as with an ovarian or uterine tumour. The account of the patient was probably incorrect. As the tumour seemed to be solid, no tapping was, of course, resorted to; had this been done, the case would have been one of "dry tapping."

Had the diagnosis in this case been correct, no operation would have been attempted.

Case of Abstinence for three months, no Food, during that period, being taken into the Stomach. By J. L. PIERCE, M. D., of Fallsington, Bucks County, Pennsylvania.—On the 13th of January, 1836, my friend, Dr. May, was about leaving Philadelphia for the East, and requested me to take charge of a number of cases of considerable interest, which he then had under his care. Among these was a lady who had for many months been severely affected with disease of the stomach. As the exact character of the disease may admit of dispute, and as it is not this to which I wish to draw attention, but a peculiarity in the mode of treating it, I have headed the article in the manner it stands.

I called with Dr. May to see this patient on the 13th of January, 1836. She was about twenty-six years of age, sallow complexion, emaciated, pulse 120, feeble, but regular. A spot over the left epigastric region, of an inch

and a half in diameter, was very tender on pressure, and considerable tenderness existed for some distance around it. Her appetite, though not craving, was sufficiently good to enable her to eat almost any food, though she had been restricted to a very simple diet. Her bowels were open every two or three days, passages natural. She was in the habit of vomiting several times a day, and her food was generally rejected within a few minutes after it was taken. She had been sick about three months, and had been confined to the bed a large portion of this time.

I was informed that her case had been considered as carcinoma of the stomach. Her treatment had consisted of such articles as were calculated to allay the irritability of the stomach and the vomiting, and to quiet the severe pains of the epigastric region. A constant sore had been kept up over the affected spot by means of blisters, which were dressed with anodyne ointments, and occasionally leeches were applied to the spot.

On taking charge of the case I watched it for some days very closely. I found that neither food nor medicine appeared to remain upon the stomach, but that as often as either was administered, vomiting ensued; and with the food ejected, there was from a teaspoonful to a tablespoonful of matter, such as is usually discharged from an abscess. Should nothing be taken into the stomach for some hours, emesis would take place of this kind of substance by itself. During the first week, I pursued the same mode of treatment as had been made use of formerly, but I soon became satisfied that it was altogether useless, and that the patient must sink unless some more effectual plan were adopted. The simplest medicine taken into the stomach was rejected as soon as the severer kind, and even gum Arabic water or barley water was as irritating as oysters or roast beef could have been.

Towards the close of January, I asked her if she was willing to submit for one month to an entire abstinence of all kinds of food by the mouth, and be nourished solely by enemata. The idea was a novel one to myself, but my view was that the stomach must rest, and let the character of the disease be what it might, it would thereby stand a much better chance of healing. That there was a suppurating sore in the stomach appeared evident, and rest was absolutely essential. She was now exceedingly emaciated, and so feeble that she was entirely confined to the recumbent posture.

On the 1st day of February we entered upon our new mode of treatment. I directed lamb or mutton broth of good quality to be kept constantly on hand, and a half a pint to be used as an enema every three hours. During the first week, I allowed her to take not exceeding a teaspoonful at a time of gum Arabic water or pure water, several times a day, with the request that she would lessen the frequency of it towards the latter part of the week, so as to be able to refrain from it entirely on the commencement of the second week. She very readily acceded to my wishes in every respect, and I have not the least doubt of her acting with perfect honesty towards me. I kept up a running sore over the epigastric region, which I dressed with simple cerate or basilicon ointment, sprinkled with morphia.

During the first week my patient vomited from three to six times daily, discharging pus, and a considerable quantity of matter resembling tubercles. Her sensation of hunger was at times great, but she bore it with remarkable fortitude. At the expiration of the week she was evidently more comfortable, and became increasingly so during each succeeding week of the month, at the close of which her condition was as follows: vomiting occurs on an average about twice a day; substance discharged the same as before, tinged with a little blood; tongue clean, pulse fuller than formerly, and less frequent; countenance more healthy. I now asked her if she were willing to

continue the same treatment for another month. She did not hesitate in giving a prompt response; and, during this month, not a drop or morsel of anything passed her lips.

April 1. Condition in every way improved. The vomiting occurs once in two or three days, quantity less, appearance of discharge white, with but very few of those particles resembling tubercles; bowels regular; pulse 90; very little pain; strength improving.

I now requested her to continue the treatment one month longer. She consented to do so, and it was astonishing how rapidly the improvement progressed. By the middle of the month I consider the cure to have been nearly completed, but thought it best not to depart from the course we had been pursuing, lest irritation of the stomach should renew the vomiting, and other unpleasant symptoms. About the 24th of the month, I allowed her a teaspoonful of gum Arabic water three or four times a day, with directions to increase it in frequency each successive day, so that the stomach might be gradually prepared for its usual nourishment. By the close of the month I felt satisfied that the disease of the stomach had ceased, that the sore had healed, and that my patient, by a forbearance and perseverance seldom equalled, had been rescued from an untimely grave. She was now able to sit up a considerable portion of the day, a part of the time attended to some needle-work or knitting; could walk some distance without assistance; complexion good; pulse 80; bowels regular, and much fleshier than when I commenced my attendance upon her.

I continued calling on the patient occasionally until the 18th of May, when I took my leave of her, with many blessings showered upon my head.

In consequence of her removal to Southwark, I lost sight of this patient for nearly two years, when I accidentally met her in the street. Her appearance had so much improved that I scarcely recognized her; and she assured me that she was in the enjoyment of uninterrupted health.

Case of Narcotism. By T. M. Woodson, M. D., of Sumner Co., Tenn.—In the number of the *American Journal* for April last is published an interesting case of poisoning with opium, by Dr. Young. I find recorded in my note case-book the following similar case, which I place at your disposal for publication, if you think proper:—

I was called, on the 18th August, 1850, 9 o'clock A. M., to see an infant five days old. Its mother became alarmed on being unable to arouse it, or induce it to suck. She had given it, during the latter part of the night, as she supposed, a dose of paregoric; does not know how much. It soon fell asleep, as she supposed, and nothing wrong was suspected until a few minutes before I saw it.

Countenance pallid; pulse feeble, thread-like, and scarcely perceptible; respiration slow, interrupted, attended with occasional moaning; skin cool and clammy; extremities cold; eyes half open, drawn forcibly upwards and outwards, pupils contracted, did not dilate when light was removed; slight spasmodic contraction of muscles, of face and extremities. Gave it a few drops of brandy, and applied cold water to its head, to be continued until it was aroused. I visited again next morning, and to my utter astonishment found it relieved. It began to recover late in the evening, but the cold water was not discontinued until late at night, when it sucked freely.

On examining the vial from which the medicine had been given, I found it to be Bateman's drops, used to the dregs, which is stated by Wood and

Bache to contain about the same amount of opium as the camp. tinct. opii. This should be a warning to mothers against the use of nostrums.

This case proves clearly the efficacy of cold affusion, in excessive narcotism, being the only remedy that could be used at the time, as it was too late for emetics, the poison having lain in the stomach eight or nine hours, and the child was too young for the ordinary remedies used in such cases. I therefore repose the utmost confidence in cold water, as being the safest and surest means adapted to all stages and cases.

HANNA'S P.O., SUMNER Co., TENNESSEE, *April* 28, 1852.

Case of Rupture of the Uterus. By J. L. PEIRCE, M. D., of Fallsington, Bucks County, Pennsylvania.—On the 10th of December, 1835, when I resided in Philadelphia, I was called at one o'clock A. M. to a coloured woman, in labour with her second child. The membranes had ruptured at three o'clock the previous afternoon, and when I entered the room I found the pains were very strong, but not of the character we term "bearing down." The os uteri was dilated to the size of a half dollar piece, and I ascertained that it was a vertex presentation, and that the antero-posterior diameter of the pelvis was very much contracted. After waiting two hours, the head having advanced but little, I endeavoured to take a nap. In about an hour the groans of the patient had ceased, and on going to her I was alarmed at the altered condition of things. She was cold as death; in a profuse perspiration; the abdomen was exceedingly tender; the pulse imperceptible; and she was shaking violently. Upon making an examination per vaginam, I found that the head had receded so that it could not be touched, and there was an entire absence of pains. Thinking to bring on a gradual return of them, I administered five grains of ergot every fifteen minutes for one hour, but without effect. In this state of the case, I sent for my friend, Dr. J. K. Knorr, to confer with. On his arrival, no favourable change having taken place, we concluded to consult Dr. Janney, who immediately suggested the probability that a rupture of the uterus had taken place. On examination, Dr. J. found that this suggestion was correct, and that the child had passed into the cavity of the abdomen. He brought down the feet, and with great difficulty the body was delivered; but every effort to bring down the head by instruments, or otherwise, proved unavailing, until at length it was severed from the body. After a long time spent in fruitless endeavours, as a last resort the brain was evacuated, and then by means of the guarded crotchet and blunt-hook, the head was extracted. The patient bore the operation with the greatest fortitude—scarcely a complaint escaped her lips. Of course, she was exhausted. We had her placed in a comfortable position, and kept as quiet as possible. Some brandy was given immediately, and ten grains of carb. ammonia with twenty-five drops of acetated tinct. of opium were administered every half hour. The cold and pulseless state continued through the day and most of the night. On the following morning, a slight degree of warmth was restored to the body, and by noon, to the elbows; but the pulse was still imperceptible. The abdomen was exceedingly distended with flatus. Frictions with ol. terebinth. and with tinct. capsici were used from the time of her delivery. Stimulants and opiates were used as freely as was deemed prudent. At 3 o'clock P. M. her breathing became laboured, and at about 7 o'clock in the evening she was released from her sufferings, thirty-four hours after delivery had been effected.

On the succeeding day, a *post-mortem* examination was made. The uterus was found severed from the vagina on its anterior portion, and the os uteri

was torn on each side to the extent of several inches. The uterus was scarcely at all contracted. The antero-posterior diameter of the superior strait measured three inches; but the circumstance to which the rupture was to be attributed was the existence of a spinous process upon the superior posterior portion of the symphysis pubis, of about three-quarters of an inch in length, terminating in a sharp point. The constant and severe pressure of the fœtus for so long a period upon this process no doubt caused the vagina and uterus to give way.

DOMESTIC SUMMARY.

Chemical Examination of the Mineral Water of Cooper's Well, near Raymond, Mississippi.—Dr. J. L. Smith, Professor of Chemistry in the University of Louisiana, has published (*Western Journ. Med. and Surg.*, July, 1852) the following analysis of the water of Cooper's well, which enjoys a local celebrity for its efficacy in chronic diseases of the bowels.

"The water analyzed was collected in the month of December, 1851, and part of the examination was made at the source.

The water is derived from a well dug to the depth of one hundred and seven feet in a porous sand rock, which is covered in some places with a coarse conglomerate of pebbles, consolidated by oxide of iron. The depth of the water in the well seldom exceeds five feet; it is said to flow in at the bottom from three different sources, and it will be well to examine their general characters separately, so soon as the water from them can be obtained. It flows most abundantly in winter, and therefore the summer water might be expected to contain more mineral matter. The country around is broken, remarkably dry, enjoying a reputation for general salubrity, and its convenient proximity to the Vicksburg and Jackson Railroad is calculated to make it the first watering-place in the Southwestern country, either as a resort for invalids or pleasure-seekers.

Chemical Examination of Cooper's Well Water.—Temperature, 64° Fahr., the air being at 53° Fahr.

Taste—not unpleasant; slightly mineral.

Odour—little or no odour, although at times it is said to have distinctly that of sulphuretted hydrogen.

Colour—transparent, with small yellow flakes floating in it.

Specific gravity	100,147
Gas contained in one gallon,	
Composed of oxygen	20
" nitrogen	68
" carbonic acid	trace
" sulphuretted hydrogen	trace
Substances contained in one gallon are:—	
Sulphate of soda	11.705 grains.
" magnesia	23.280 "
" lime	42.122 "
" potash	.608 "
" alumina	6.100 "
Chloride of sodium	4.260 "
" calcium	4.025 "
" magnesium	3.480 "
Silica	1.801 "
Peroxide of iron	3.362 "
Crenate of lime	.311 "

The deposit which collects from concentrating the water, or after it has stood for a time, contains in 100 grains:

Crenate of lime	2
Peroxide of iron	35
Sulphate of lime	25
Water	38

The iron was found altogether in the yellow particles which float about the water, although it is more than probable that at certain seasons of the year it must be found in the clear water also.

The water when kept loses none of its properties, as has been proved by strict analysis; and at all times, when the effects of the iron are sought for, the sediments should be drunk along with the clear water.

The concentrated water appears to lose nothing but a portion of its sulphate of lime. So in that form, when diluted with pure water, similar medical effects might be expected to those produced at the spring; but, of course, like all other mineral waters, it is only at the source that the patient can expect most advantage; and it is equally true that precautions are to be observed in the use of Cooper's well water.

The diseases to which the water appears mostly adapted are chronic intestinal diseases, which embrace a class too numerous to be mentioned in this report. It has also been found eminently useful in dropsical affections, as well as in inflammation of the bladder. In the short space of twelve or fifteen years, it is impossible to discover all the diseases to which a water of this description is adapted, as chemical analysis alone cannot guide us in making its application. The remarkable virtues of this water, in the character of diseases before alluded to, are known and acknowledged by several of the most eminent physicians of New Orleans, Mississippi, and Alabama."

Early Operation for Harelip.—Dr. A. L. Peirson, of Salem, in common with the best surgeons of the day, advocates the early performance of the operation for harelip, and in a late number of the *Boston Medical and Surgical Journal* (Sept. 15), furnishes some observations in favour of that practice.

"On the 2d of February, 1851," he says, "I was called to operate on a child in Marblehead, born with a harelip. The late Dr. Briggs, who knew my preference in favor of an early operation, sent for me immediately on the birth of the child. I performed the operation when the child was but twelve hours old. I operated in the usual manner, with scissors and sutures. My method is to use three simple sutures, one far up in the nostril, one at the epithelium of the lip, where the cutis terminates, and one midway between these. The wound healed at every point by the first intention, and the child was put to the breast on the sixth day, which was as soon as lactation was established.

On the 22d of May, 1852, a healthy male child, with a harelip, was born in my practice. It had a cleft palate and superior maxillary bone, and the left alæ nasi more than usually dilated, flattening the nose and giving a hideous expression to the countenance. I operated when the child was six hours old. I dissected up the skin very freely, separating the cartilage from the bone, and then brought the parts together with sutures, taking especial care that the upper one should be sufficiently high up in the nostril. Union by first intention followed, and the child nursed readily in six days.

For some years I have been more and more satisfied that operations in surgery are most successful as they approach nearest to the period of birth. In the earliest infancy the recuperative powers seem to be strongest. I have also remarked that the sensibility to pain is less distinctly marked at first, than after a few days. In the last-mentioned case of harelip operation, the child actually slept while the lip was being dissected from the maxillary bone.

It was formerly generally believed that the earliest infancy was the period when the system was most liable to convulsions. I have been led to doubt this maxim, and to believe that the nervous system is more easily excited, the more its function is called into exercise, and this is certainly not the case immediately after birth. A newly-born child also sleeps more, and when awake is less observant and prone to motions of the extremities, than after a few days of extra-uterine life. The anxiety and unhappiness of the parents, also, are of so much shorter duration as we operate earlier on the patient."

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OCT 12 1916

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.

EIGHTY-SEVENTH SESSION (1852–53).

The Lectures will commence in the earlier part of October next, and terminate in the middle of March ensuing.

Theory and Practice of Medicine,	By GEORGE B. WOOD, M. D.
Anatomy,	" WILLIAM E. HORNER, M. D.
Materia Medica and Pharmacy,	" JOSEPH CARSON, M. D.
Chemistry,	" ROBERT E. ROGERS, M. D.
Surgery,	" WILLIAM GIBSON, M. D.
Obstetrics and the Diseases of Women and Children,	" HUGH L. HODGE, M. D.
Institutes of Medicine,	" SAMUEL JACKSON, M. D.

Clinical Instruction at the Pennsylvania Hospital, by GEO. B. WOOD, M. D., and by GEO. W. NORRIS, M. D.

Demonstrative Instruction in Medicine and in Surgery by the Professors of the Medical Faculty, assisted by W. W. GERHARD, M. D., and HENRY H. SMITH, M. D.

Practical Anatomy, by JOHN NEILL, M. D., Demonstrator.

J. CARSON, M. D., *Dean of the Medical Faculty,*
332 *Walnut Street.*

MEDICAL COLLEGE OF OHIO.

SESSION OF 1852–53.

THE THIRTY-THIRD ANNUAL COURSE OF LECTURES will commence on the first Monday of November next, and continue to the end of February, by the following Professors:—

JEDEDIAH COBB, M. D., Anatomy.
JOHN LOCKE, M. D., Chemistry and Pharmacy.
J. LOCKE, M. D., Jr., Adjunct Professor of Chemistry and Pharmacy.
L. M. LAWSON, M. D., Physiology and Pathology.
THOS. O. EDWARDS, M. D., Materia Medica, Therapeutics, and Medical Jurisprudence.
HENRY W. BAXLEY, M. D, Surgery and Surgical Anatomy.
LANDON C. RIVES, M. D., Obstetrics and Diseases of Women and Children.
DANIEL DRAKE, M. D., Theory and Practice, and Clinical Medicine.
WILLIAM H. COBB, M. D., Demonstrator of Anatomy.

☞ The DISSECTING-ROOMS and the Clinical Amphitheatre of the Commercial Hospital of Ohio, with the Lecture-Rooms of the New College edifice, will be opened on the 1st of October, and preliminary gratuitous lectures will be delivered through that month by different professors.

FEES.—For a Full Course, $105; Matriculation, $5; Hospital Ticket, $5; Demonstrator's Ticket, $10; Graduation, $25.

Before graduating, the candidate must have attended two Full Courses of Lectures; the last in this Institution; must have taken the Demonstrator's and the Hospital Ticket once; been in the study of Medicine three years; be twenty-one years of age, and of good moral character.

L. M. LAWSON, *Dean.*

CINCINNATI, O., *June* 17, 1852.

MARYLAND MEDICAL INSTITUTE.

Baltimore, Md.

THE undersigned continue to receive MEDICAL STUDENTS for OFFICE INSTRUCTION. Throughout the year, tri-weekly examinations will be held, which during the Winter will embrace the LECTURES delivered at the Medical Schools.

More particular attention will be paid to *Organic Chemistry, Urinary Pathology, Auscultation and Microscopy.*

DAVID STEWART, M. D.
No. 77 *North Eutaw Street.*
CHARLES FRICK, M. D.
No. 70 *North Charles Street.*
FRANCIS DONALDSON, M. D.
No. 36 *Franklin Street.*

March, 1852.

JEFFERSON MEDICAL COLLEGE.

SESSION OF 1852–53.

The regular Course of Lectures will commence on Monday, the 11th of October, and continue until the first day of March. The Annual Commencement for conferring degrees will be held *early in March*, instead of at the end of the month, as formerly.

Robley Dunglison, M. D., Prof. of Institutes of Medicine, &c.
Robert M. Huston, M. D., Prof. of Materia Medica and General Therapeutics.
Joseph Pancoast, M. D., Prof. of General, Descriptive, and Surgical Anatomy.
John K. Mitchell, M. D., Prof. of Practice of Medicine.
Thomas D. Mütter, M. D., Prof. of Institutes and Practice of Surgery.
Charles D. Meigs, M. D., Prof. of Obstetrics and Diseases of Women and Children.
Franklin Bache, M. D., Prof. of Chemistry.
Ellerslie Wallace, M. D., Demonstrator of Anatomy.

Every Wednesday and Saturday in the month of October, and during the course, Medical and Surgical cases will be investigated, prescribed for, and lectured on before the class. During the past year, *two thousand and twenty-nine* cases were treated, and *three hundred and eight* operations performed. Amongst these were many major operations—as amputation of the leg, thigh, arm, hand, mammæ, &c., trephining, tying the carotid, extensive plastic operations, resection of the femur for ankylosis, removal of the superior and of the inferior maxillary bone, reduction of dislocations—some of old standing—treatment of fractures of the thigh, arm, forearm, &c. &c.

The Lectures are so arranged as to permit the student to attend the Lectures and Clinical demonstrations at the Pennsylvania Hospital.

On and after the 1st of October, the dissecting-rooms will be open, under the direction of the Professor of Anatomy and the Demonstrator.

FEES.

Matriculation, which is paid only once,	$5 00
Each Professor, $15,	105 00
Graduation,	30 00

The number of Students during the last session was 506; and of Graduates 228.

R. M. HUSTON, M. D.,
Dean of the Faculty, No. 1 Girard Street.

August, 1852.

NATIONAL MEDICAL COLLEGE—WASHINGTON, D. C.

The Thirty-First Annual Course of Lectures will commence on the first Monday in November, and continue until March.

FACULTY.

Thomas Miller, M. D., Professor of Anatomy and Physiology.
Wm. P. Johnston, M. D., Professor of Obstetrics and the Diseases of Women and Children.
Joshua Riley, M. D., Professor of Materia Medica, Therapeutics, and Hygiene.
John Fred. May, M. D, Professor of Principles and Practice of Surgery.
Grafton Tyler, M. D., Professor of Pathology and Practice of Medicine.
Robert King Stone, M. D., Professor of Microscopical and Pathological Anatomy.
Edward Foreman, M. D., Professor of Chemistry and Pharmacy.
James E. Morgan, M. D., Prosector and Demonstrator.

Practical Anatomy may be prosecuted with the most ample facility.

Clinical Instructions given through the entire period of the Lectures at the Washington Infirmary, under the same roof with the College. Here Medicine and Surgery are both taught practically.

The entire expense for a full Course of Lectures is	$95
Practical Anatomy by the Demonstrator	10
Matriculating fee, payable only once	5
Graduation expenses	25

Admission to the Medical and Surgical Clinic without charge.

GRAFTON TYLER, M. D.,
Dean of the Faculty

Office and Residence Corner of Washington and Gay Streets, Georgetown.

MEDICAL DEPARTMENT OF PENNSYLVANIA COLLEGE,

Ninth, below Locust Street, Philadelphia.

The Lectures in this Institution for the Session of 1852–53, will commence on Monday, October 11, and be continued without interruption until the ensuing 1st of March.

The Faculty is constituted as follows:—

Professor of the Principles and Practice of Medicine,	William Darrach, M. D.
Professor of Obstetrics and the Diseases of Women and Children,	John Wiltbank, M. D.
Professor of Materia Medica and Pharmacy,	Henry S. Patterson, M. D.
Professor of the Principles and Practice of Surgery,	David Gilbert, M. D.
Professor of Medical Chemistry, and Pharmacy,	John J. Reese, M. D.
Professor of Anatomy,	Jonathan M. Allen, M. D.
Professor of the Institutes of Medicine,	Francis G. Smith, M. D.
Demonstrator of Anatomy,	Wm. H. Gobrecht, M. D.

There is a Medical and Surgical Clinic on every Wednesday and Saturday. Second course students are furnished with a ticket to the Clinical Lectures at the Pennsylvania Hospital, without additional charge.

The Anatomical Rooms will be opened early in September.

FEES.

Matriculation,	$5
Tickets of each chair	15
Graduation,	30

For further information, address

DAVID GILBERT, M. D., *Registrar*,
No. 181 North Ninth St., Phila.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-Sixth Session of the College will be commenced on Monday, 11th of October, 1852, and continued until March 10, 1853, (commencement day.)

Alexander H. Stevens, M. D., LL. D., President of the College and Emeritus Prol fessor of Clinical Surgery.

Joseph M. Smith, M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine.

John Torrey, M. D., LL. D., Professor of Botany and Chemistry.

Robert Watts, M. D., Professor of Anatomy.

Willard Parker, M. D., Professor of the Principles and Practice of Surgery.

Chandler R. Gilman, M. D., Professor of Obstetrics and the Diseases of Women and Children.

Alonzo Clark, M. D., Professor of Physiology and Pathology (including Microscopy).

Elisha Bartlett, M. D., Professor of Materia Medica and Medical Jurisprudence.

Charles E. Isaacs, M. D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, $5; Fees for the full course of Lectures, $105; Demonstrator's Ticket, $5; Graduation Fee, $25; Board, average $3 per week.

Clinical Instruction is given at the New York Hospital daily, by the Medical Officers, (Professor Smith being one of them,) fee $8 per annum; at the Bellevue Hospital twice a week, without fee, (Professors Parker and Clark belonging to the Medical Staff;) at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for dissection are abundantly furnished through the respective departments.

The annual Commencement is held at the close of the Session; there is also a semi-Annual Examination on the second Tuesday of September. The pre-requisites for graduation are—21 years of age, three years of study, including two full courses of Lectures, the *last* of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular Course, and not interfering with it, a Course of Lectures will be commenced on Monday, 27th September, and continued until the 11th of October. This course will be *free*.

R. WATTS, M. D., *Secretary to the Faculty.*

College of Physicians and Surgeons,
67 Crosby Street, New York.

MASSACHUSETTS MEDICAL COLLEGE.

THE Medical Lectures of HARVARD UNIVERSITY will commence at the Massachusetts Medical College in Boston, on the first Wednesday in November, and continue four months.

Obstetrics and Medical Jurisprudence by - -	WALTER CHANNING, M. D.
Materia Medica and Clinical Medicine by - -	JACOB BIGELOW, M. D.
Theory and Practice of Medicine by - - -	JOHN WARE, M. D.
Pathological Anatomy by - - - - -	JOHN B. S. JACKSON, M. D.
Anatomy and Physiology by - - - - -	OLIVER W. HOLMES, M. D.
Principles and Operations of Surgery by - -	HENRY J. BIGELOW, M. D.
Chemistry by - - - - - - - -	J. P. COOKE, A. M.

Clinical Lectures are delivered at the Massachusetts General Hospital three times a week by the Professors of Clinical Medicine and of Surgery. Surgical operations are very numerous, performed weekly in the presence of the class in the operating theatre. The safe and effectual practice of etherization, a discovery first made in Boston, and matured and established in the Massachusetts General Hospital, is practically taught in this School.

Practical Anatomy is amply provided for by the most liberal arrangements. The Anatomical Museum is one of the largest and richest in the United States, and has a fund of $5000 for its increase. The Eye and Ear Infirmary, and other charities, are open to students.

Fees for the whole Course, $80. Matriculation, $3. Dissecting Ticket, $5. Graduation, $20. Hospital and Library gratuitous.

April, 1852.

TREMONT STREET MEDICAL SCHOOL,

In Boston, over 33 Tremont Row.

THIS School was instituted in Boston, in 1838, for the purpose of giving to private pupils a thorough course of instruction, by lectures and examinations, throughout the year. Two hundred pupils, including a large part of the recent academic graduates of Harvard University, who have devoted themselves to the study of medicine, and many others from all sections of the country, have received their professional education, or some portion of it, at this Institution.

Exercises in the different branches are given daily or oftener, from the close of the University Lectures in March, until their commencement in November, with the exception of the month of August, during which most of the usual labors of the School are suspended. During the session of the University Medical School, examinations are held three times weekly on the subjects of the lectures.

The following gentlemen are instructors in this School, during the present year, in the several departments of medical science, forming a complete and thorough course.

JACOB BIGELOW, M. D.	OLIVER W. HOLMES, M. D.
D. HUMPHREYS STORER, M. D.	HENRY J. BIGELOW, M. D.
J. B. S. JACKSON, M. D.	SAMUEL KNEELAND, M. D.

J. PARSONS COOKE, A. M.

Practical Anatomy is taught under the immediate direction of the Teacher of Anatomy and Physiology, assisted by the Demonstrator of the Medical School of the University. Ample means of pursuing this important branch of study, and for the practice of the more important surgical operations, are provided without additional expense to the student.

CLINICAL INSTRUCTION.—This essential branch of a medical education is made an object of especial attention. There will be clinical visits at the Massachusetts General Hospital, in the Medical Department, by Drs. Bigelow, Jackson, and Storer, with Lectures at stated intervals; and constant attention to the practical study of Auscultation and Percussion, for which ample opportunities occur in the practice of the Hospital.

Clinical Instruction in Surgery will be given at the same Institution by Dr. Henry J. Bigelow.

Ample opportunities are afforded for experience in Obstetric practice.

PUBLIC INSTITUTIONS.—In addition to the medical and surgical practice and operations of the Massachusetts General Hospital, the Students will have admission to the Eye and Ear Infirmary, through the politeness of the Surgeons of that Institution; and also to the Institution for the treatment of Diseases of the Skin, by permission of Dr. Durkee.

MEANS OF ILLUSTRATION.—The large collections of healthy and morbid specimens in the Warren Anatomical Museum, and the Cabinet of the Boston Society for Medical Improvement, will be made available for the purposes of instruction under the direction of Dr. Jackson, the Curator of both these collections. The new and splendid apparatus of Professor Cooke will be employed in practical demonstrations and exercises of the students in Chemistry.

LIBRARY.—During the whole Summer Term, the Students of the Tremont Street Medical School, will have free access to, and the privilege of taking Books from the Library of the Massachusetts Medical College, now consisting of about 1700 volumes, and rapidly increasing by a large annual appropriation, devoted to the purchase of Books most useful and acceptable to the Student.

TERMS.—For the Summer Term (from March 1st to November 1st), $90. For the Winter Term (from November 1st to March 1st), $10. For a Year, $100.

BOSTON, *April*, 1852.

UNIVERSITY OF NEW YORK, MEDICAL DEPARTMENT.

Session of 1852–53.

FACULTY OF MEDICINE.

VALENTINE MOTT, M. D., L.L.D., Emeritus Professor of Surgery and Surgical Anatomy, and Ex-President of the Faculty.

MARTYN PAINE, M. D., Professor of Materia Medica and Therapeutics.

GUNNING S. BEDFORD, M. D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery.

JOHN W. DRAPER, M. D., Professor of Chemistry and Physiology.

ALFRED C. POST, M. D., Professor of the Principles and Operations of Surgery, with Surgical and Pathological Anatomy.

MEREDITH CLYMER, M. D., Professor of the Institutes and Practice of Medicine.

WILLIAM H. VAN BUREN, M. D., Professor of General and Descriptive Anatomy.

WILLIAM DARLING, M. D., Demonstrator of Anatomy.

GEORGE A. PETERS, M. D., Prosector to the Professor of Surgery.

ALEX. B. MOTT, M. D., Prosector to the Emeritus Professor of Surgery..

JOHN W. DRAPER, M. D., *President of the Faculty.*

COURSE OF INSTRUCTION.—The Courses of Lectures given will be on Anatomy, General, Descriptive, Surgical, and Pathological; Surgery; Materia Medica; Therapeutics; Institutes and Practice of Medicine; Obstetrics and Diseases of Women and Children; Chemistry and Physiology. These Courses are arranged in such a way that six lectures a day are given, except when cliniques intervene. The cliniques are:

1. *An Obstetric Clinique* every Monday, from 2½ to 4½ o'clock P. M. This clinique was first established by Professor Bedford, in October 1850, and from that time it has met with constantly increasing success. More than 1700 cases of the most interesting diseases of women and children have been presented at it. So great are the facilities of the City of New York in this respect, that it may be truly said, that nowhere else do such opportunities exist for the study of this department.

2. *A Surgical Clinique* every Tuesday from 2½ to 4½ o'clock P. M., under the charge of Professor Mott. All surgical operations which may be necessary, are performed in presence of the Students. The senior students have the privilege of attending the patients at their houses, under the direction of the Professor.

3. *A Medical Clinique* every Wednesday, from 2½ to 4½ P. M., under the charge of Professor Clymer. In this clinique every variety of disease will be brought before the Class, and special attention will be given to maladies of the chest, auscultation, percussion, &c. The patients will be given in charge of the senior Students, to be attended under the direction of the Professor.

4. *A Surgical Clinique* every Saturday, from 10 to 12 o'clock, under the charge of Professor Post. This is conducted in the same manner and upon the same principles as the Tuesday Clinique.

PRACTICAL ANATOMY.—The session during which the dissecting-room will be open for students will occupy five months, commencing the first day of October, and terminating on the first day of March following. During the month of October, the room will be open from 8 o'clock A. M., till 5 o'clock P. M., and it will be the duty of the Demonstrator to attend there regularly during that month, from 10 o'clock A. M., till 1 o'clock P. M., and to devote himself assiduously to the instruction of the pupils in the art of dissecting, and in the acquisition of anatomical knowledge. During the months of November, December, January, and February, the dissecting-room will be open from 8 o'clock A. M., till 10 o'clock P. M.; and it will be the duty of the Demonstrator to be in attendance from half-past 2 o'clock until 4 o'clock, and from half-past 7 o'clock until 10 o'clock, P. M., and to devote himself to the instruction of the dissecting students The students, on the payment of the fee for the dissecting ticket (five dollars), will be entitled to all privileges of the dissecting-room, and will likewise be furnished with soap and towels for washing. No extra charges will be made them on any account whatever, except for their subjects, and the injection of subjects, and it shall always be optional with the student to have them injected or not.

REGULATIONS FOR THE TERMS OF LECTURES, &c.—REQUISITES FOR GRADUATION.—The Lectures commence on Monday, the 18th of October, and are continued until the last day of February following.

The Examinations for Degrees will commence about the first of March, and will be continued daily, until the candidates shall have been examined.

(CONTINUED ON NEXT PAGE.)

UNIVERSITY OF NEW YORK, MEDICAL DEPARTMENT—Continued.

The following are the requisitions for the Diploma:—

1st. The candidate must be 21 years of age.

2d. He must have attended two Courses of Medical Lectures; one of which must be delivered in the Medical Department of the University of New York.

3d. The Candidate must have studied Medicine for three years (the terms of attending Lectures being included in these), under the direction of a respectable Medical Practitioner.

4th. He must write a Medical Thesis, either in the English, Latin, or French language.

Two Commencements take place annually in the University, at either of which Candidates who have complied with the above requisitions may graduate.

The first takes place early in the month of March, and the other about the middle of the month of July. The great body of the Candidates will, no doubt, graduate at the Spring Commencement; but those who wish to postpone it will have the opportunity of coming forward in July.

The Examinations for Degrees are conducted in private by the Professors individually.

Fees for the Winter Course:—Full Course of Lectures, $105; Matriculation Fee, $5; Practical Anatomy, $5; Total, $115.

Students on arriving in town will call at the College in Fourteenth-Street, between Irving Place and Third Avenue, and inquire for the Janitor, Mr. Polman, who will provide them with boarding-houses.

Letters may be addressed to Dr. Draper, President of the Medical Faculty, University, New York.

BALTIMORE COLLEGE OF DENTAL SURGERY.—*Session* 1852–53.

FACULTY.

Chapin A. Harris, A. M., M. D., Prof. of Principles and Practice of Dental Surgery.
Thomas E. Bond, Jr., A. M., M. D., Prof. of Special Pathology and Therapeutics.
W. R. Handy, M. D., Prof. of Anatomy and Physiology.
Alfred A. Blandy, M. D., Prof. of Operative Dentistry.
Philip H. Austen, M. D., Prof. of Mechanical Dentistry.
Reginald N. Wright, A. M., M. D., Lecturer on Chemistry.

The Mechanical and Dissecting-rooms, will be opened on the last Monday of October. The Infirmary will be open throughout the year.

The regular Course of Lectures begins on the last Monday of November, and continues till the last of March.

Tickets for the Course, $110; Dissecting ticket (optional), $10; Matriculation, $5; Diploma fee, 30; Total, $155. Good Board from $2 50 to $3 50.

The Faculty open their next session in a new College, much larger, handsomer, better adapted for all the purposes of Dental Instruction, and situated in a more central part of the city. It contains two spacious and beautiful Lecture-Rooms, an Infirmary, Mechanical, and Dissecting-Rooms. Also a Museum, presenting teeth of every pathological variety, Anatomical Preparations, Plates, and Models, with a large and costly Chemical Apparatus, thus furnishing the most ample means for illustrating the several departments.

W. R. HANDY, *Dean.*

MEMPHIS MEDICAL COLLEGE.—*Session of* 1852–53.

Ayres P. Merrill, M. D., Professor of Materia Medica and Therapeutics.
Lewis Shanks, M. D., Professor of Obstetrics and Diseases of Women and Children.
Edward H. Leffingwell, M. D., Professor of Chemistry and Toxicology.
Hardy V. Wooten, M. D., Professor of Principles and Practice of Medicine.
Howel R. Robards, M. D., Professor of Surgery.
Arthur K. Taylor, M. D., Professor of Anatomy.
Charles T. Quintard, M. D., Professor of Physiology and Pathology.
Daniel F. Wright, M. D., Demonstrator of Anatomy.

The regular Course of Lectures will commence on the first Monday in November, and continue four months.

The Class will have free access to the Hospital during the session, when, in addition to the instruction given by the Surgeon, Dr. George A. Smith, there will be regular Pathological and Clinical Lectures by the Professors.

The Lecture, Anatomical and all other necessary rooms in the College, are large and comfortable; and arrangements are made to supply the school by the next session, from the collections of Europe and this country, with full Chemical Apparatus, Anatomical Museum, and everything required to demonstrate the different branches. Material for the Practical study of Anatomy is abundant; and special attention is given to that branch.

LEWIS SHANKS, M. D.,
Dean of the Faculty.

April 1, 1852.